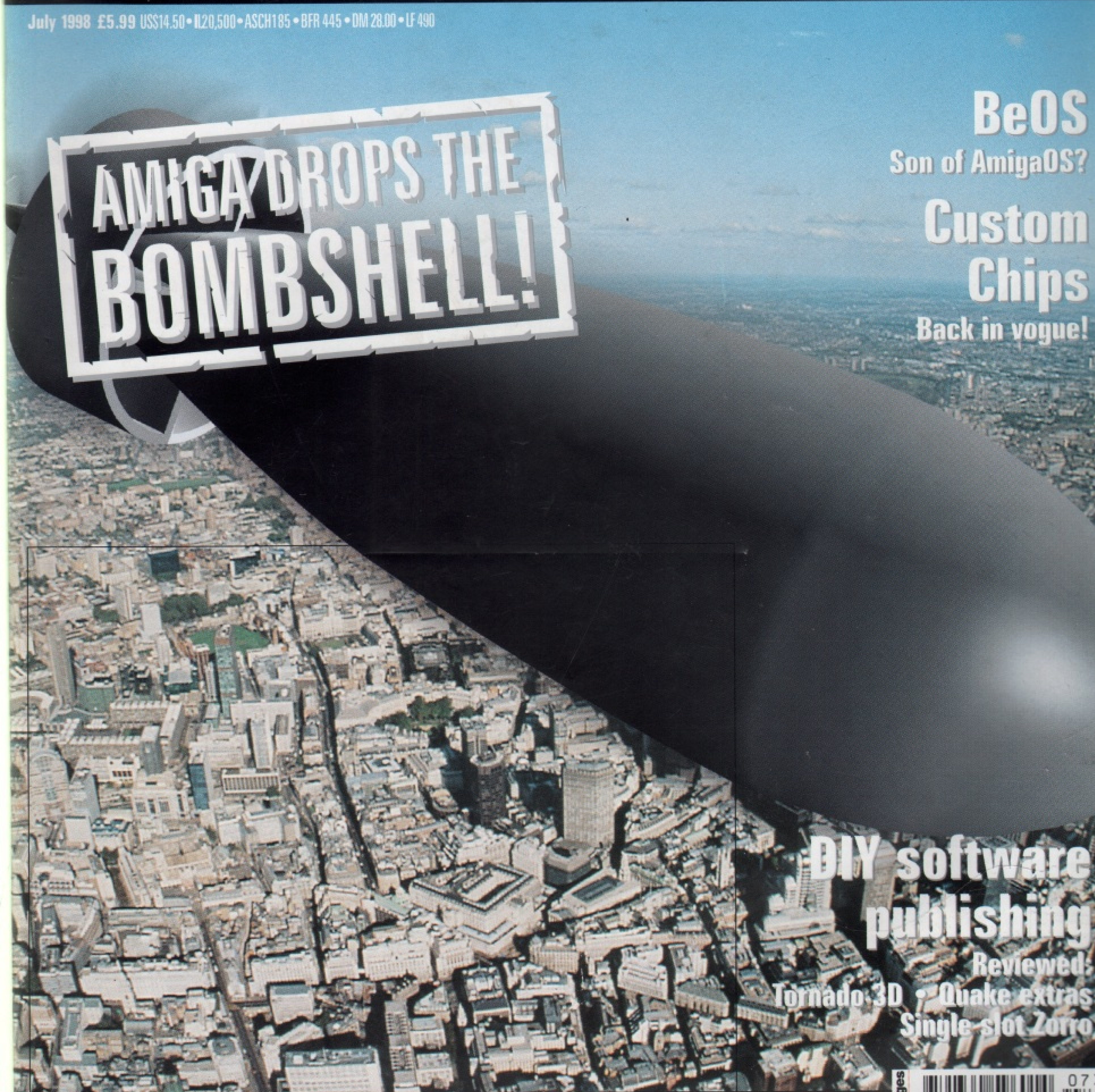
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Editorial



It happened at last. We got some solid information from Amiga Inc about their plans for the future. Read all about it in our special extended news coverage and feel free to give us your comments on the whole affair. I'm sure you won't be lost for words! As usual we've got another issue packed to the gills with all the latest reviews and more of our inimitable features and tutorials. Taking top billing in the reviews section is another new 3D rendering package, Tornado 3D, which is looking very promising indeed. You should also find your long-awaited "Powered by Amiga" sticker within these pages. Thanks to Petro for helping us out with that.

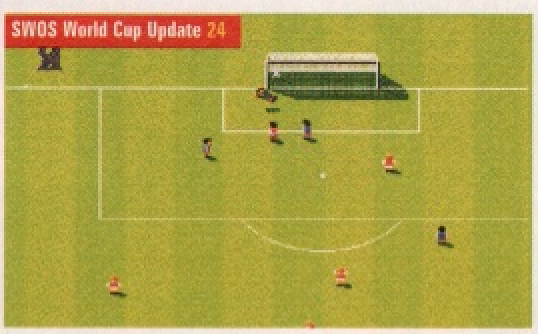
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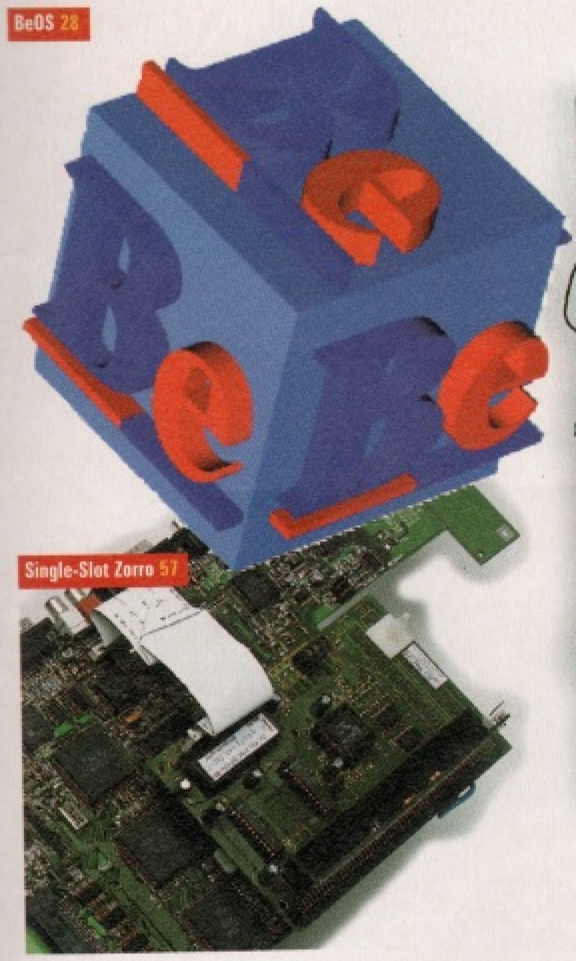
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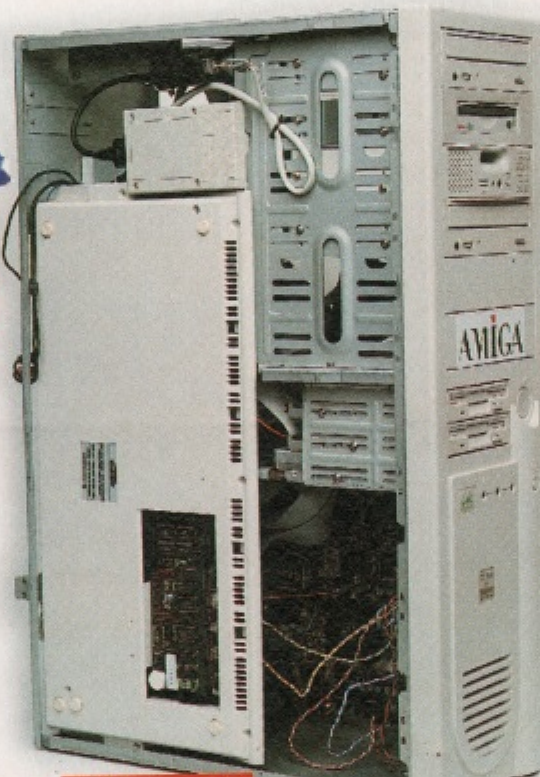
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PD REVIEWS: We get loads of new PD programs every week, but we're still hungry for more. If you've written a PD program that you're proud of send it to: **PD SUBMISSIONS, CU Amiga Magazine, 37-39 Millharbour, Isle of Dogs, London, E14 9TZ.**

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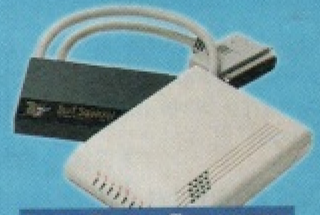
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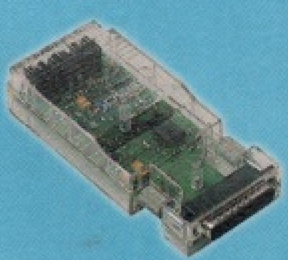
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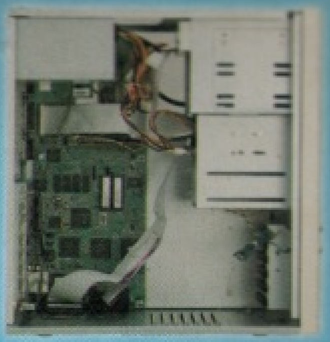
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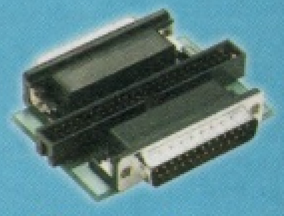
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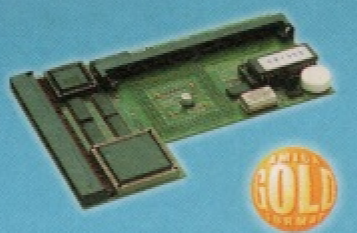
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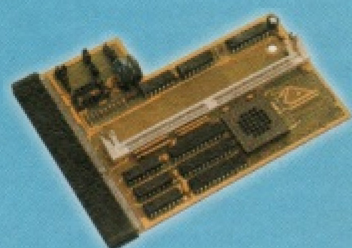
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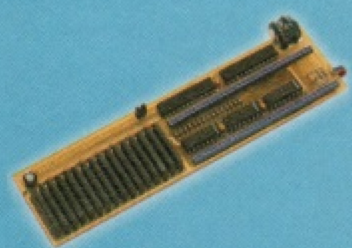
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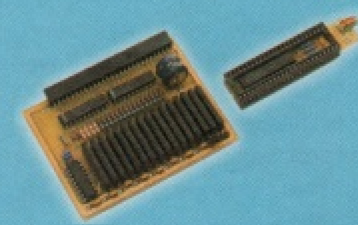
CDTV 2MB RAM £49.95



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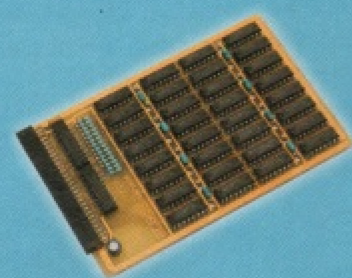
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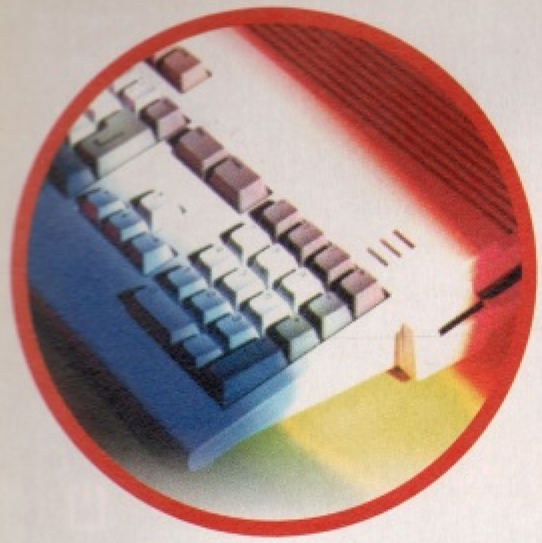
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News

Super Amiga Announced!

Rarely can the lead up to an Amiga show have caused so much excitement. We've all been waiting for a year to find out what Gateway were going to do with the Amiga, and when it was revealed that Amiga, Inc. had finally got the go ahead for a plan on the 27th of April, excitement in the Amiga Industry and amongst those Amiga users who heard about it on the internet rapidly rose to fever pitch. Rumours flew about madly, but the common thread was that the we were awaiting a real bombshell.

Jeff Schindler presented a vision for the Amiga, which has been given the support – and apparently quite significant financial backing – of Gateway. He talked about the Amiga, what it was and where it had come from, and told us what Amiga Inc envisioned the strengths and weaknesses are. He talked about what features were important for future Amigas, and CU Amiga magazine readers will be pleased to know that he said they took a close look at the Big Amiga Poll (CU Amiga Magazine, May issue) when they were deciding this. Commodore are well and truly dead, one thing this – and a few other things that came up over the weekend – shows, is that this company is very prepared to listen.

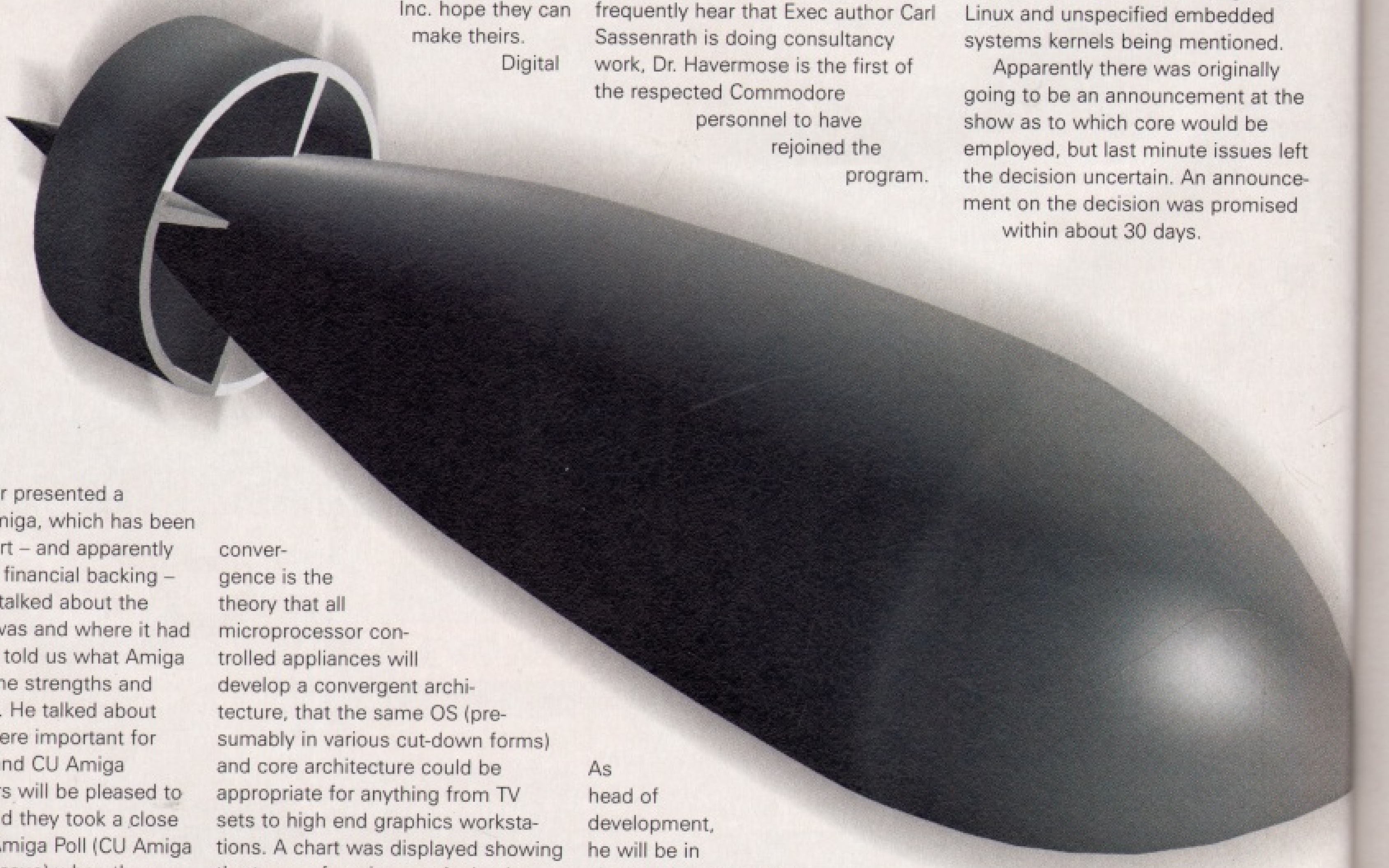
Digital Convergence

Jeff Schindler then presented his vision for the future of the Amiga. The Amiga is going to develop into a technology which fills the "digital convergence" niche, one Amiga Inc. hope they can make theirs. Digital convergence is the theory that all microprocessor controlled appliances will develop a convergent architecture, that the same OS (presumably in various cut-down forms) and core architecture could be appropriate for anything from TV sets to high end graphics workstations. A chart was displayed showing the types of equipment Amiga Inc. will be aiming the Amiga technology at, including set-top boxes, internet ready DVD games consoles, a sub $500 (roughly £300) home computer system, cheap laptops, and Silicon graphics beaters for a fraction of the price. That is not to say that they will be selling all these themselves, they will build reference hardware, but they see themselves as being primarily concerned with software.

A new face at AI was introduced, Dr. Alan Havemose, who used to work for Commodore. Although we frequently hear that Exec author Carl Sassenrath is doing consultancy work, Dr. Havermose is the first of the respected Commodore personnel to have rejoined the program. As head of development, he will be in charge of much of the direction the future Amiga will take, and the good news is that pretty much everyone who talked to him was impressed and felt confident that the OS was in good hands.

Amiga Inc plan on producing the OS in conjunction with another company, and to this end were looking into the options of using an OS core from one of the other operating systems that share much of the Amiga philosophy, with Java, BeOS (see our feature on page 28), Linux and unspecified embedded systems kernels being mentioned.

Apparently there was originally going to be an announcement at the show as to which core would be employed, but last minute issues left the decision uncertain. An announcement on the decision was promised within about 30 days.





Killer hardware

Software is not the only issue. The next generation of Amiga will have a new CPU in it which Amiga Inc claim is able to toast the opposition, but at much lower costs. This new "superchip" is due go first silicon soon. Details of this are vague, as AI want to keep certain aspects of this news secret for the moment, but it is an intriguing derivative of the media processor, combined with an as yet unspecified CPU core. You can read more about media processors in our article on the subject starting on page 33 of this issue, but don't expect to find the answer there. There were more hints than facts about this new hardware, but the hints that were specified certainly made it sound like something special. Performance indicators mentioned were 400 million pixel/second 3D (more than 4 times the performance of Voodoo 2), the ability to simultaneously decode four Mpeg2 streams at high definition TV resolutions, and inbuilt telephony with 56k software modems and ADSL specified. The overall speed was claimed to be "at least 5 to 10 times as fast as current Pentium 2" systems, and emulation of Pentium software was mentioned.

Development systems for this new hardware will ship from November. These will consist of a transtitional OS running on x86 (PC compatible) architecture. Amiga Inc. are in talks with Access Innovations (formerly Index Technology) and Siamese systems about the InsideOut card which they want for this developer's "bridge" to the new hardware. The announcement that this bridge system will run under x86 not surprisingly caused uproar - x86 may be an industry favourite, and may be well liked by the Gateway boys, but the Amiga industry has spent years looking at CPUs, and we know perfectly well that x86 is an inferior architecture. It is crude, inefficient and horrible to program. Fortunately the uproar – and the rash of "I heard Amiga is going x86, I'm leaving the Amiga" comments on the internet – stemmed from a basic misunderstanding. The reason for adopting x86 in the first instance is that the new hardware (which is not x86) can be developed for with simulation tools running on x86. The confusion came about because Amiga, Inc said that this bridge system would be widely available, interpreted by some as meaning that this would be aimed at the general Amiga user. Of course the notion of expecting people to move from their current hardware to an x86/68k platform for a year before moving to the new Amiga is crazy, and was never the idea. However some people are going to find the idea of a high end 68k Amiga (the Inside Out) inside a dual boot machine capable of running Windows and transitional AmigaOS 4 tempting even with the promise of far better to come a year later, and Amiga Inc didn't want to rule them out.

The Bridge system is due to be launched at Cologne this November with a price point between $1000 and $1200 (£600-800) and it is this that the non Amiga news services concentrated on, hence the confusion.

> **"I would never have believed it, had I not been there to see it with my own eyes. This technology really seems to be the best match for the Amiga philosophy, one that meets high end expectations at a low-end price. It will be fun to see the Amiga 'blow the socks off' everything else that's out there"**
>
> **Carl Sassenrath**

PowerDown?

The flipside of the Bombshell quickly hit home. Despite the earlier announcement from Amiga Inc backing PPC & 68k as a solution, there were no plans involving PowerPC development beyond a vague promise to talk with phase 5 digital products on bringing PowerPC into the equation, something most people felt Amiga Inc really ought to have done before the announcement. The general consensus was that Amiga Inc had made a big mistake by not adopting PowerPC at least until the new hardware is available, and the initial reaction of a lot of people on hearing the announcement was that the PPC was dead, phase 5 would leave the market, and no-one would sell anything at the show.

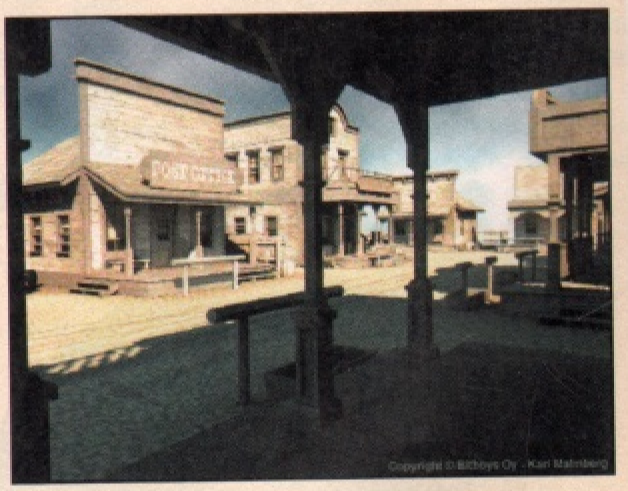
After the presentation, everyone

The Super Amiga

The silicon that makes the heart of the machine is a cypher – hints and off-the-cuff comments from various people at Amiga Inc make it sound like their contacts at Gateway have found them something that is truly revolutionary, a programmable CPU with memory and internal bus speeds way ahead of anything today, but also so much more than that we have been assured we will never guess what it is.

There is nothing in the publicly stated specs that comes as too much of a surprise to someone who knows where silicon research is heading these days, except possibly the price, but the implication is that what we have been told is just the start of it. If all this is true, the new Amiga is to be a market leader – a games console based on this would be something like 5 times as powerful as the upcoming Sega Dreamcast. The OS details are pretty vague also. Some people have claimed that without the original Amiga exec it isn't an Amiga, but we are assured that there will be a consistant but upgraded GUI, and the "look and feel" will be similar. OS4 will run old programs transparently under emulation, the way that PowerMacs run 68k Macintosh software, so there will be total backward compatibility.

We speculate that the OS is likely to be heavily object oriented, with programming targetted to an API layer. This makes a lot more sense of the transitional x86 version of the OS, and ties in with modern OS thinking and the possibilites of hardware independent computing.



▲ A example of what 400M pixels per second can do – in this case from the Glint3D graphics card, due out at a similar time to the new Amiga.

was given snacks and drinks, but this was not enough to mollify some very worried developers, retailers and end users. Long and often heated debates developed with the guys from Amiga Inc Jim Collas, Gateway's point of contact with Amiga Inc and their Vice President in charge of global products, whose superiors at Gateway can be counted on the thumbs of one hand, impressed everyone by gamely joining in and demonstrating a reasonable knowledge of the Amiga. What was heartening was that everyone came away with a sense that their opinions really mattered, and that Amiga Inc were very serious about resolving everyone's doubts.

The mood at the show quickly improved as people started concentrating more on the amazing promise of the new Amiga and less on the worries of the present. Talks between numerous parties continued throughout, and the general excitement that things were moving at last had the buyers out in force – most dealers saying it was the best WOA in years.

As the weekend progressed it occured to more and more people that the new hardware wasn't going to be here for at the very least a year and a half, and PowerPC would offer more power and faster software until the new system was ready, released and had some decent software to make it worth buying. Several companies rushed out announcements that they would be continuing PPC development, while none have since, at time of press, cancelled PPC development.

Where PPC goes from here is still unclear, but it is certainly clearer than it was at the beginning of the weekend. Many people called for a PPC port of the new OS, which given the degree to which it is meant to be portable should be quite possible. This was in principle confirmed to us by Dr Alan Havermose and Fleecy Moss of Amiga Inc.

Faced with a loss of investment if nothing was resolved, representatives of phase 5, Haage & Partner and Access Innovations spent the Saturday night hammering out a plan to keep the "Amiga Classic" line going. They agreed to end the differences between them – notably the WarpOS vs PPC library controversy – and work together towards a sustained development of the Amiga Classic market to keep the end users happy at least until the new hardware is released. Amiga Inc have given their blessing, in principle at least, to this development. With the possibility of OS4 being released on PPC and running on Pre/Boxes and BoXeRs, and even PowerUP cards, the path to the new Amiga, which even Amiga Inc themselves admitted they weren't totally happy with, is looking a lot smoother.

The clouds of confusion are clearing and the future is looking very, very good indeed. If there was one message that came out of the show it was this: We may have waited around for ages and ages, but it is going to be very well worth the extra wait. ■

Andrew Korn



HAAGE & PARTNER

phase 5 DIGITAL PRODUCTS

May 18, 1998: In a joint anouncement after the recent World of Amiga show in London, and as a reaction to the plans revealed by Amiga Inc, Haage&Partner and phase 5 digital products have emphasized their full and continued support for the PowerPC integration. With joint efforts both vendors will further support the developers and the users of PowerPC technology, and will ensure a fast growing number of stunning and powerful applications. With many thousands of PowerUP boards being shipped so far, a number of installed systems which is rapidly growing, the PowerUP boards already provide an attractive market for all developers. This fact is underscored by many upcoming PowerUP releases of major Amiga software packages, and the increasing support of software vendors which has been agreed on during the WoA even after the announcements of Amiga Inc.

Haage&Partner and phase 5 digital products emphasized that the competition of their different approaches towards PowerPC integration, as well as the public dispute about this, are a matter of the past. "We will ensure that users of PowerUP system have a transparent integration of their PowerPC software, and will see a rich variety of most powerful applications to be released soon" say representatives of both companies.

Further development of PowerPC system software shall be done with close consultations between the companies; beside that, cooperations in the development of powerful PowerPC-based system libraries and other OS extensions are being discussed.

In meetings of the managements of Haage&Partner and phase 5 digital products with Amiga Inc already during the WoA show in London, it has been agreed that a new proposal will be presented to Amiga Inc which outlines an alternative option to "Amiga Bridge" system planned by Amiga Inc.

This alternative is a new PowerPC-based system, which will feature the planned Amiga OS upgrade and can be out for sale in the retail channels by end of the year already. Beyond incorporating standard industry components and interfaces, such a system can provide additional options which allow for creative development and expansion in the spirit of the Amiga and can also run the current and next releases of AmigaOS.

Based on the PowerPC, this system will also provide continuity and innovation for all users and developers, and will allow the Amiga community to take part of such stunning developments such as Motorola's new AltiVec technology, an extension to the G4 PowerPC processors which will provide a breathtaking performance already early next year. With approval and support of Amiga Inc, this technology can introduce the long-awaited revival of the Amiga platform already this year, quickly providing a growing market of powerful systems which users can buy, and for which developers can develop and sell software and add-ons.

Haage&Partner and phase 5 digital products also encourage all Amiga developers who want to participate today in an existing innovation, and who want to be a part of an Amiga market which provides growth, continuity and innovation from now on and during the next years, to speak out now and commit themselves to support the PowerPC as the heart of the next generation of Amiga systems.

World of Amiga Reactions

One thing's for sure, Amiga Inc's announcement certainly provoked a reaction. After the dust had settled, we asked around for some opinions from various Amiga people...

"The choice of Intel as the next step for Amiga is one which had to be the only logical choice. There couldn't be a more tried and tested set of standards on which to put AmigaOS. For me, I only hope that Amiga Inc decide to go ahead with the digital convergence machine. Once they see how good AmigaOS can be on Intel chips, could they decide that the move to custom chips with OS5.0 is too much work, and concentrate their efforts on Intel for the future? As has been the case for three years, we shall have wait and see."

Simon Archer
"Mr Portable Amiga"

"The announcement was in some ways very exciting (shiny new hardware and all that), but also a little disappointing. 18 months is a long time and the scant details sound very similar to lots of 3rd party hardware/vapourware announcements over the recent years. The rumours of connections with Be Inc do add a certain air of plausibility to the OS and multimedia claims, though. And maybe Dave Haynie's PIOS hardware is involved too... Let's hope it all works out and we get to see the Amiga reborn."

Jason Hulance
Be Developer

"As a hobbyist programmer, I was pleasantly surprised by the announcements. I had a little advance information, but that didn't give me half the picture. I see the targetting of the new "digital convergence" market as an ambitious strategy which could just work with the backing of Amiga developers. I don't see any OS out there that targets this market adequately, although I'm sure there are some on the way. The previous experience of some Amiga developers with kiosk systems and the CDTV may provide valuable insights into this."

"What concerns me most right now is the incomplete information that was being given out to the public initially, causing a lot of confusion. I got the feeling that Amiga Inc, having committed to major announcements, would rather have left them until some more details could be finalised. However, I believe they were right to go ahead – another show with no news would have been the last straw for a lot of people."

Ben Hutchings
"Ultimate Amiga Trainspotter"

"The Amiga became what it was by virtue of having an efficient operating system that used co-processors, the custom chips, to handle the display, sound and so on, leaving the CPU free to deal with running the machine and its programs. After years of moving away from this, by using "industry standard" components for graphics cards, sound cards and I/O cards, leaving the original chipset with not much more to do than look after the floppy drive and mouse, we are returning to our roots.

"The transitional machine may be based on PC architecture, but if that means Amiga Inc can build it sooner to allow them and developers to start work on the real next generation Amiga so much sooner, I'm all for it, especially as there now appears to be a future for PowerPC in the interim too.

"The leap from the C64 to the A1000 was awesome, the leap to digital convergence could be even greater. I'm now looking forward to the millennium."

Neil Bothwick
CUCD Compiler

"The announcement of Amiga Inc from the WOA leaves us with mixed feelings. We are happy that Amiga Inc finally works actively on a new generation of Amiga systems, and we generally agree with the long-term plans presented by Amiga Inc – although they contain some common places and industry hype words which may be better rated when more detailed information is released. But we are not happy with the intermediate step, which they called "Amiga Bridge" and which is a PC running a revised AmigaOS 4.0. We believe that this is not the solution that the Amiga community has expected or deserved, therefore we can't believe that this product brings innovation and continuity to the Amiga market.

"In meetings with Amiga Inc during the WOA show in London, we therefore suggested that we present a new proposal to them which outlines an alternative option to the "Amiga Bridge" system. This alternative is a new PowerPC-based system, which will run the AmigaOS 4.0 and can be out for sale in the retail channels by the end of the year. Beyond incorporating standard industry components and interfaces, such a system can provide additional options which allow for creative development and expansion in the spirit of the Amiga. Based on the PowerPC, and a modified version of our pre\box design with one to four CPUs (upgradable at the user's choice), this system can provide continuity and innovation for all users and developers.

"Such a system will also allow the Amiga community to take advantage of stunning developments such as Motorola's new AltiVec technology, an extension to the G4 PowerPC processors which will provide a breathtaking performance early next year, with estimated more than 10 billion operations per second and more than 2 Gigaflops performance. With approval and support of Amiga Inc, this technology can introduce the long-awaited revival of the Amiga platform this year, quickly providing a growing market of powerful systems which users can buy, and for which developers can develop and sell stunning software and add-ons.

"Additionally, if Amiga Inc approves this concept, the PowerPC-based AmigaOS 4.0 can also be made available to all owners of PowerUP boards, leaving nobody behind in this revolutionary step forward to the future of the Amiga. Of course, the mechanisms which are used by PowerUP software can easily be implemented into the new AmigaOS 4.0, allowing PowerUP software to run under this new OS.

"We seriously hope that Amiga Inc will approve such a concept, as it is a logical and beneficial step for the whole Amiga community; therefore we look forward to a positive answer from their side, which will allow us all to start off into an exciting future."

Wolf Deitrich
phase 5 Boss

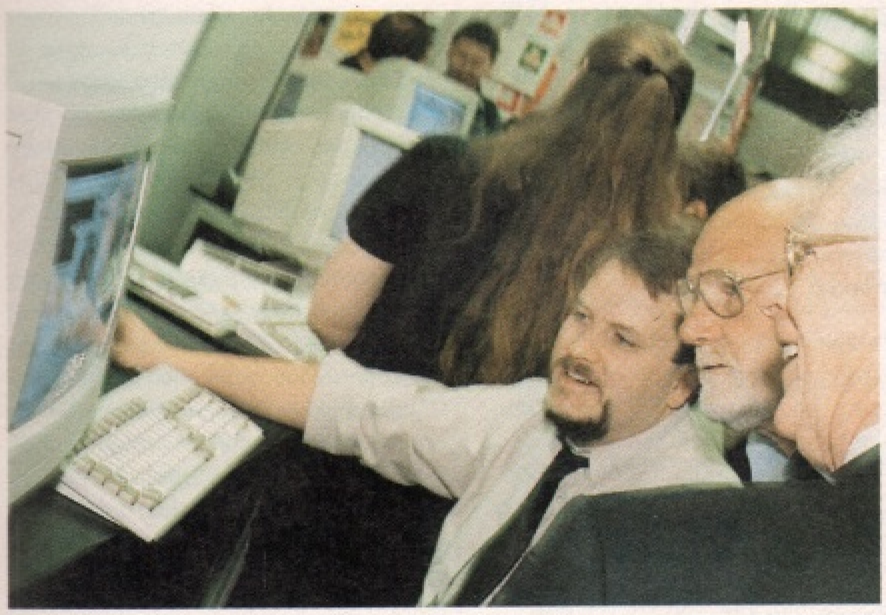
More debate next month...

World of Amiga 1998

May 16-17th 1998, Hammersmith, London



It nearly didn't happen at all, but at short notice the World of Amiga 1998 was organised and went ahead almost exactly as planned.



Earlier this year people began to talk about the possibility of a London Amiga show. Wasn't anyone organising one? Surely the traditional World of Amiga would somehow gravitate the Amiga trade and community to the old West London venue of the old Commodore shows as if by magic? It would, so long as someone got the ball rolling. When we spoke to show organiser Peter Brameld in the spring, he expressed doubts as to whether it would be worth it this year. Not having been involved in the Amiga merry-go-round for a while he was under the impression that the demand wasn't there and was concerned that it could turn out to be "Wake of Amiga". However, a few phone calls and straw polls confirmed the demand and it was all systems go.

Full house

Occupying the ground floor of London's Hammersmith Novotel, World of Amiga 98 managed to match the size of last year's event in terms of floor space and exhibitors. Attendance was good, with an eager crowd forming a substantial queue on the Saturday, filling the show to capacity for almost the entire day, with Sunday pulling in a good crowd too. Official attendance figures were not available at the time of going to press but we'll try to get a number for next month.

Despite the enthusiasm and sheer number of show-goers ready to roll at opening time, things got off to a shaky start on the Saturday. A string of power cuts plunged the venue into total darkness before and immediately after the doors opened. We'll never know how many hard drives they managed to invalidate! Fortunately for us, it gave us an excuse for having half our stand covered in dead Amigas. Actually most of them were dead on arrival at the venue, so half of the morning was spent reanimating them with the help of a few CPU and drive transplants and a trip to the local Maplin's down the road.

Good timing

Timing of the show turned out to be good on a number of counts. First of all there was that statement from Amiga Inc, who were on hand to field difficult questions for most of the weekend. As for products, it proved a showcase for the year's most exciting developments so far: Quake was available and being demonstrated on a number of stands on a range of different Amigas.

Genetic Species gave Quake a run for its money too, pushed along by the promotional 'thing in a bucket' squirming around like a mutant lobster on the Wierd Science stand. Gamers got even more to spend their cash on with the release of Foundation.





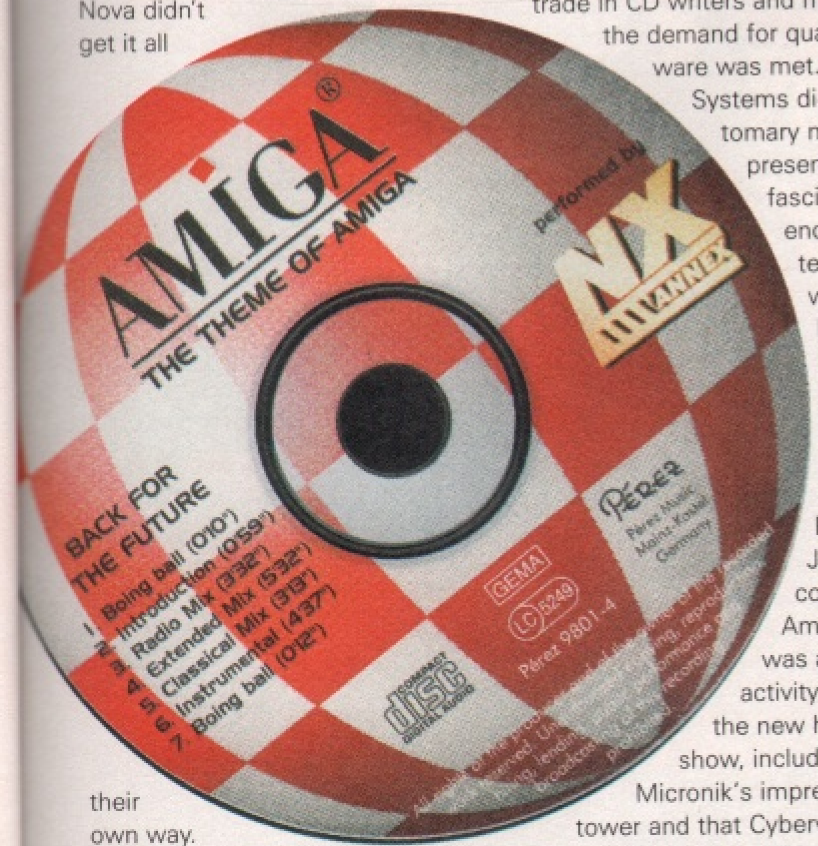




In addition to the unusual glut of quality games on offer there was even more activity regarding productivity software and hardware. Nova Design were proudly showing off and selling ImageFX 3 while Motion Studios' Elastic Dreams made sure Nova didn't get it all their own way.

Other software highlights included Photogenics NG, a new version of Opus Magellan, Easy Writer, Net Connect 2, BurnIt PPC and the latest edition of Samplitude.

On the CU Amiga stand, White Knight were demonstrating a pre-production Cybervision PPC, while Power Computing had their new PowerFlyer IDE interface and flicker-fixing Scan Magic. HiSoft did a good trade in CD writers and made sure the demand for quality software was met. Siamese Systems did their customary mini-theatre presentation to fascinated audiences, even tempting us with an InsideOut board. Watched over by a giant blow up of Space Boy from the June issue cover, the CU Amiga stand was a hive of activity. What with the new hardware on show, including Micronik's impressive Z3 tower and that Cybervision PPC, and a constant barrage of questions and discussion between the attendees and CU Amiga gang, there was barely a moment's peace. CU Amiga subscriptions were more popular than ever too! Thanks to all of you who pledged your support to us for the coming year.



Song and dance

Sharing the stage with the big TV drafted in for the FA Cup Final were Petro Tyschtschenko and his troupe of dancers. Dancers? Yes indeed! Petro introduced the official Amiga theme tune amid a cloud of dry ice. The dancers struck a range of poses as the atmospheric intro rolled out of the speakers, slowly building to a Euro-techno-pop song with the lyrics "Back for the future... Rising up like a phoenix from its sleep, coming out of the darkness and the deep". CDs were on sale at the Amiga International stand after the performances. Petro was bullish about the song topping the charts over the coming weeks. We shall see...

Valuable weekend

Overall it's safe to say that a good day was had by all who came. As well as a good opportunity for the public to meet suppliers, developers, press and Amiga themselves face to face, it was a valuable weekend for the newly formed Amiga Inc who finally got to meet a cross section of one of the biggest groups of Amiga users in the world. Maybe they didn't quite know what they were dealing with before. They certainly do now!



Far left: Nova Design's Kermit Woodall converts a couple more Amigans to the joys of ImageFX.

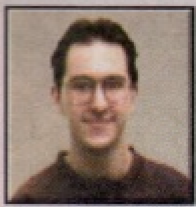
Immediate left: CU Amiga publisher Andy McVittie caught in rivetting conversation with the newly-shorn Mat Bettinson.





Right: No need for football fans to miss out, on the big day, thanks to the FA Cup Final being screened at the show. **Left:** At the end of the day, some show-goers were just plain trolleyed.





Stateside News

by Jason Compton: Editor in Chief of Amiga Report Magazine

US Press wakes up...

Suddenly, the Amiga has become a lot more interesting to the mainstream American computer press. Even before the WOA was held, a steady trickle of news stories and opinion pieces praising the Amiga had started to appear here and there in PC/Mac-focused or general-interest technology sources.

The announcement itself had Dan Stets, the Philadelphia journalist who generated more mainstream column-inches about the Amiga during the Commodore bankruptcy than any other person, as well as news.com's Stephanie Mills listening in, and both filed stories on the Amiga's future shortly after the announcement.

This has spurred their colleagues and competitors to jump on board, and Wired followed suit a few days later. The last major media attention for the Amiga in the US came when Gateway bought the technology, but the burst was short lived.

...and they've someone to talk to.
Amiga Inc. didn't parade him out for the world in London, but they have finally hired a proper sales and marketing contact who will ultimately be responsible for improving the company's PR as well. Bill McEwen, a veteran of several computer technology startup companies, has signed on as director of sales and marketing. Bill has little previous Amiga experience, although we expect he will learn very quickly.



▶ Bill McEwan, yesterday.

Fly On the Wall at WOA

For the second year, PiM Publications, publishers of Amazing Computing/Amiga will be helping to bring the WOA home for Amiga users. PiM will offer commercial videotapes containing taped footage from the major speeches and presentations at the recent World of Amiga UK show.

The tapes will be largely unedited, raw footage taken by Amazing Computing editor Don Hicks. Exact contents, length, and pricing were unavailable at press time, but the tape should cost less than US$40. The tapes will be NTSC only.

For more information, contact PiM at+508-678-4200, or www.pimpub.com.

Oregon to be Research-less

OREGON RESEARCH

One of the pioneers of Amiga development has officially decided to close shop. Oregon Research, known in the US in recent years as a primary supplier of HiSoft products, is ceasing operations and liquidating its inventory of stock, Amiga equipment, and source code licenses.

For some time, Oregon Research has operated as a part-time Amiga company and not long ago held a "help keep us in business" sale. But the support that turned out was apparently not enough.

Oregon Research has attractive liquidation pricing and some rare and unusual items and intellectual property for sale.

For more information, visit their website at www.orres.com. (phone messages and orders may be left at +503-620-4919)

Looking for a job?

There aren't many places in the world where skill at fixing Amigas will land you steady work, but New York is one of them.

As North America's leading Amiga repair center, Paxtron Corp. is looking to fill two repair positions to keep turnaround times down. Strong Amiga knowledge as well as extensive knowledge of surface mount technology are required.

For more information, fax Paxtron, attention Dave, at +914-578-6550 or e-mail paxtron@cyburban.com.
Paxtron's website is at www.paxtron.com.

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Win Quake!

Plus: id's Official Guide Book!





We've got ten copies of Amiga Quake to give away, courtesy of clickBOOM, along with ten official 200+ page player's guides. To give yourself a chance of getting one of these, all you have to do is jot down the correct answers to the following three questions on a postcard, along with your name and address, and send it to the address below.

The senders of the first ten correct entries picked at random from the box marked "Quake compo" will win both the game and the guide book.The closing date for entries is July 30th 1998.

Those difficult questions:

1. What animal makes a noise like Quake without the letter "e" but with a "c" inserted somewhere in the word?

2. You are driving a train from London to Brighton. 320 people get on at London. At the first stop along the way, 72 people get off and 17 get on. At the next stop another 45 people board the train and 21 get off. At the last stop before Brighton no-one gets off but 13 get on, one of them with a small dog. What is the driver's name?

3. Name three adversaries you will come up against in Quake.

Send your answers on a postcard to:
Quake compo, CU Amiga, 37-39 Millharbour, Isle of Dogs, London, E14 9TZ

CD-ROM Super CD-



Welcome to CUCD24. This CD is crammed full of programs, games, utilities, mods and a host of other goodies. If you don't yet have a CD drive, this is your reason to buy one. Prices have never been lower and 650MB of quality software each month is just too good to miss out on.

How much of what?

SWOS & Scalos	2MB	Magazine	15MB
CDSupport	69MB	Online	42MB
System files	13MB	Programming	15MB
CDROM	17MB	Readers	59MB
Demos	80MB	Sound	65MB
Games	52MB	Utilities	25MB
Graphics	29MB	WWW	46MB
Information	10MB		

Making the most of CUCD 24

All CUCDs are designed to be used whether you boot from the CD or your normal Workbench. If you boot from the CD, everything is setup and ready to go. If you want to access the CD from your Workbench, you should first run InitCD. This sets up various assigns and paths needed by programs on the CD, so if you don't do it, things won't work. It doesn't make any changes to your system, or write any files to your hard drive, all changes are temporary and can be reversed by running InitCD again.

Your own custom CD

In the past you had to use whatever file viewers we set up on the CD. since these had to work with all Amigas they were quite limited. From CUCD12 we decided to allow you to specify how the CD should work on your Amiga and included CDPrefs in the CDSupport drawer. If you have never run this before you should be asked if you want to when you run InitCD. CDPrefs lets you specify which program you want to use to handle each type of file, graphics card users can view pictures in full 24 bit colour, ProjectXG users can listen to midi files through their midi card, people with sound cards can listen to mods with an AHI module player and PowerPC users can use the fast file viewers and mpeg players available for their machines. It also means we were able to provide different defaults for Workbench 2.x users.

Once you have run CDPrefs, your setting will be saved to your hard drive and will be used every time you use this CD or any other CUCD.

Some people had problems with the original use of IDer, partly through a lack of understanding of how it worked and partly through a lack of explanation from us. All icons now use CUCDfile as their default tool, and the previous IDer problems should be a thing of the past. InitCD now copies CUCDfile and it's configuration to your hard drive, if it's not already there. This means that files copied from the CD will now work without needing the CD present. You will almost certainly need to run CUCDprefs to set it up to use your own viewers, but you should do that anyway as it will result in faster access. If you do have any problems, make sure you have run InitCD, at least once.



Highlights of CU Amiga Super CD 24



▲ Descent makes another appearance with this new update.



▲ Take Virtual Karting 2 for a test drive.



▶ New icons for Directory Opus.



Games /Games Database

This is a set of HTML documents containing a compilation of many people's reviews. This is the first release and its creator is still looking for more contributions to build it further.

Games/DEU

There are several Doom clones, and thousands of extra levels and WADs to use, but people still want to write their own. DEU (Doom Editor Utilities) will help you create your own levels for Doom and then compile them into WADs, either for your own use.or to distribute.

Graphics/ImageFX31

If you bought ImageFX 3.0 on the strength of last month's review, you'll be pleased to know that it has been updated to 3.1 now, and the 3.1 patch is on this CD.

Graphics/ArtPRO

ArtPRO may not be another ImageFX, but as a basic image conversion and processing package it does a good job at a very good price.

Graphics/LW-ParticleAnimator

Particle animation is a very powerful 3D animation process, it was used to create the intro sequence for Star Trek: Deep Space Nine. This has always been the domain of some fairly expensive software, but now you can have particle animation for nothing. Look at the animation examples to see the kind of results this LightWave plugin can produce.

Online/News

Usenet has gone beserk since Amiga Inc said they would be announcing the next generation Amiga at the World of Amiga, read all the pre-announcement speculation and post-announcement "I told you so"'s here.

Online/AmiXchange

Buying goods from abroad has never been easier, but you still don't know how much they are really going to cost until the credit card statement arrives. AmiXchange uses online sources to calculate currency exchanges using the most up to date information available. an essential utility for those who keep their credit card next to their modem.

Utilities/Neptune

We've had a few Astronomy programs on CUCDs, but I think Neptune is the first astrology program we have featured. Does anyone know the exact date of birth of the Amiga? I'd like to see what's coming next.

Utilities/MajorBank

This is a useful looking home accounts program. With it's handling of multiple accounts, import of files from other program and online help, it could be just what you need to make sure you've got enough money in the bank when the new Amigas are released.

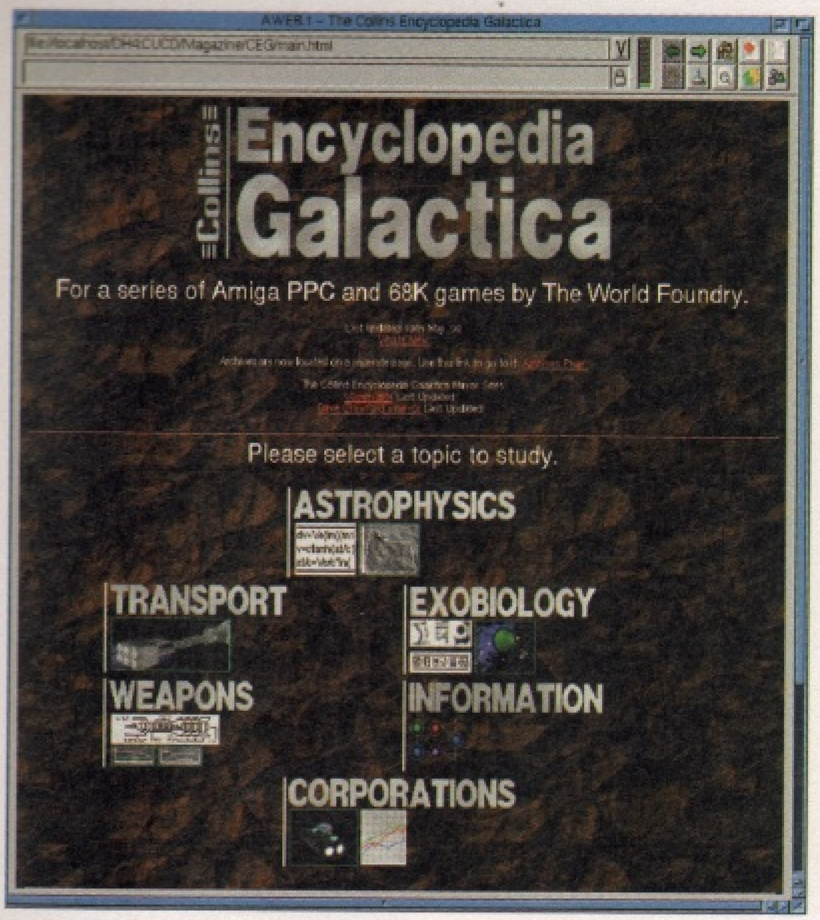
Making things work

Wherever possible, we have tried to make software work straight from the CD, this isn't always possible for a number of reasons. Some programs need to be installed to your hard drive to work, often requiring specific system files. These files are usually on the CD so running InitCD often helps here.

Most software contains a list of system requirements in the documentation, and some will not run unless you have the required processor, memory operating system version or chipset.

Some programs, particularly demos and games are written in an OS illegal way. This can mean they only work on specific machine specifications, sometimes the readme states this, but not always. Many demos are intended to be run for a shell, the icons we add simply start them >from a script. In some cases this will not work, especially demos that need a lot of Chip RAM. In this case you will need to boot without startup-sequence and run the program from the shell. Your Workbench manual should explain how to do this.

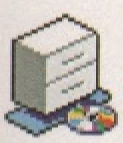
What's on this month's CU Amiga CD?



CDSupport:
This contains various support files, such as mod players, anim players, GMPlay, MUI, ClassAct. Most importantly, this is where the CDPrefs program lives. With this you can customise your CUCD to launch your choice of program for each type of file. Two other notable icons in here are Docs.guide, with links to all the program documentation files on the CD, and Index. Run Index, type in the name of a program, or part of it, and it will search the contents of the CD for you. You can either search the current CD or the index files of all CUCDs since number 4. CDSupport also contains icons to start ProNET in various configurations, ready to use when linking a CDTV or CD32 to another Amiga.

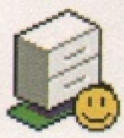
CUCD:
The CUCD drawer contains most of the CD contents, here is a selection of what each drawer holds.

CDROM:



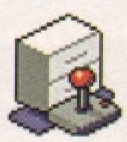
There's not a lot happening on the CDROM front lately. New versions of IDE-fix and MakeCD are here, as well as the usual collection of CDIDs. We want this to be the most comprehensive collection of CDIDs anywhere, so if you have any CDs that aren't listed here, please send us the ID files.

Demos:



All the big Amiga demos from The Gathering '98, along with several others, including what claims to be the World's first PowerPC demo, certainly the first to appear on a CUCD!

Games:



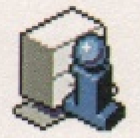
Another collection of full games and demos of commercial offerings. PowerPC games are starting to appear now, you'll have to be quick for ADoomPPC.

Graphics:



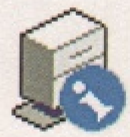
Apart from the ever popular collections of icons and backdrops, we have a 3D object converter, new viewers for AVI and QuickTime, animations, a particle animator for LightWave, the ArtPRo image converter and much more.

Information:



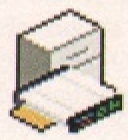
Plenty of text, AmigaGuide and HTML documents providing useful information on a range of topics. The Hardware Book is indispensable for any computer enthusiast.

Magazine:



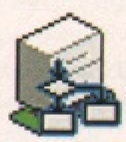
The drawer contains support files for the various features within the magazine, such as the source code for the C tutorial, an encyclopaedia for the world Foundry games and several of the programs mentioned in Wired World.

Online:



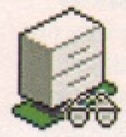
All the latest from Usenet, Fidonet and our own Mailing list. The list has been offline for a couple of weeks, but the excitement generated in the newsgroups by the big World of Amiga announcement has more than made up for it. We have a couple of email programs and a new version of MetalWEB, the web page authoring program. There's also an update to that old favourite, FTPmount.

Programming:



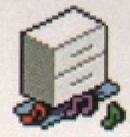
All the latest advice on programming in E, Blitz and Amos with a month's supply of postings to each of their Internet mailing lists. There is also a complete Prolog compiler, a C++ support system and a package for developing CyberGL software.

Readers:



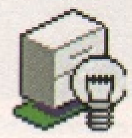
More of your own creations, games, utilities, mods, pictures and anims. Keep them coming, the more you send the more we show. Have you had your fifteen minutes of fame yet?

Sound:



We have another good collection for mod fans. The new EaglePlayer 2 plays a huge range of file formats, not only mods but several sample types as well as mpeg audio. To help you create sounds we have the sample editor SampleE, mpeg encoders and decoders for PowerUP and WarpOS.

Utilities:

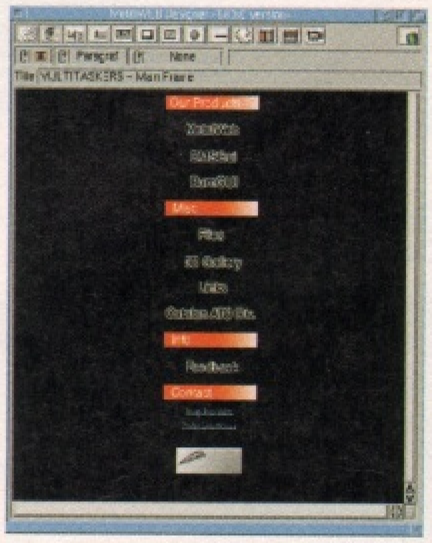


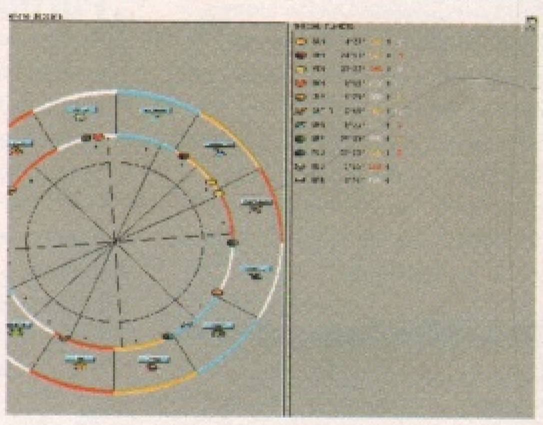
As usual, this drawer has a wide variety of useful or interesting utilities. From larger programs like the new ShapeSifter to small but essential utilities, like keymaps for using a Win95 keyboard with an A1200. PowerUP users can now emulate older machines at faster speeds than the original, with the C64 and Atari XL emulators in here.

WWW:



More useful and interesting pages >from the World Wide Web, plus the latest versions of the main Amiga browsers.





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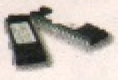
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Amiga 500, Amiga 500+, Amiga 1500, Amiga 2000	£ 39.95
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OS 3.1 ROM's only

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Art Effect

ArtEffect uses the same concepts as industry standard Art packages and brings them to the Amiga. V2.0 now has Layers and Virtual Memory! ArtEffect can be further improved with add-on modules.

ArtEffect V1.5	£ 59.95
Art Effect V2.0	£119.95

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Tornado 3D is a superb new Rendering and Animation package



Tornado 3D V1.5 boasts many advanced features. The latest rendering technology for your Amiga.

Available now! £179.95

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Official Amiga Approved ScanDoublers

Internal A1200 Scandoubler	£ 64.95
Internal Scandoubler (requires video slot)	£ 69.95
External Scandoubler (Any Amiga)	£ 74.95

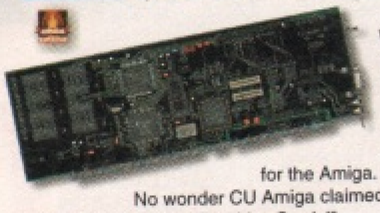
Low monitor Prices!

powered by AMIGA

Digital Monitors, require ScanDoubler or Picasso IV

15" Digital Monitor	£159.95
17" Digital Monitor	£259.95

Picasso IV



Without doubt the most stunning graphics card yet for the Amiga.
No wonder CU Amiga claimed this to be *"The God of Amiga Graphics Cards!"*

Integrated flicker fixer, 4Mb EDO RAM, Autosense Zorro II or Zorro III £249.95

Concierto IV

16-bit Sound module for Picasso IV



- Yamaha OPL3 synthesizer
- 18 voices and digital playback
- Records in mono and stereo
- Two Midi connectors plus Mixer
- AHI, MIDI,Serial driver and ARexx support
- Requires PicassoIV (firmware 4.1+)
- 68020 CPU or better, OS 2.04 or better.

Concierto IV £ 99.95

Pablo IV

Video Encoder module for Picasso IV



- Output Picasso screens to VCRs, television sets and studio equipment
- S-VHS or CVBS (Composite) video modes
- Displays 640x480 and 800x600 (PAL B/G/I only)
- A Time Base Corrector is required for genlocking
- Requires PicassoIV (firmware 4.1+)

Pablo IV £ 69.95

Paloma IV

TV module for Picasso IV



- Two video-in channels for the reception of S-VHS and VHF/UHF (aerial) signals
- Generates video images on the Amiga workbench
- All TV images displayed in a 24-bit window
- Pictures can be saved and edited
- Captured signal can be mixed with computer generated graphics
- Use with Pablo IV to produce a digital genlock.

Paloma IV £ 99.95

AsimCDFS / MasterISO V2

AsimCDFS CD-ROM software integrates sophisticated CD-ROM technology into the Amiga operating system.

AsimCDFS £ 49.95

MasterISO Version 2 is an advanced CD-R/RW system with an excellent new interface. Now supports Track-at-Once, Disk-at-Once and CD-Re-Writable formats.

MasterISO V2.0 £ 59.95

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Surf the Web on your Amiga!

AWeb is a fully featured web browser including frames, JavaScript etc.

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Prelude

Prelude

Zorro II 16-bit sound card with full AHI software support. £169.95



Amiga Computers Tower Kits

Infinitiv Kit-S £149.95
- Infinitiv Tower
- In-built PC Keyboard Interface
- 200W PSU
- Windows 95 Keyboard * (Or replace with External A1200 Keyboard case for £179.95)
- Power-In Adaptor (if non-Zorro)

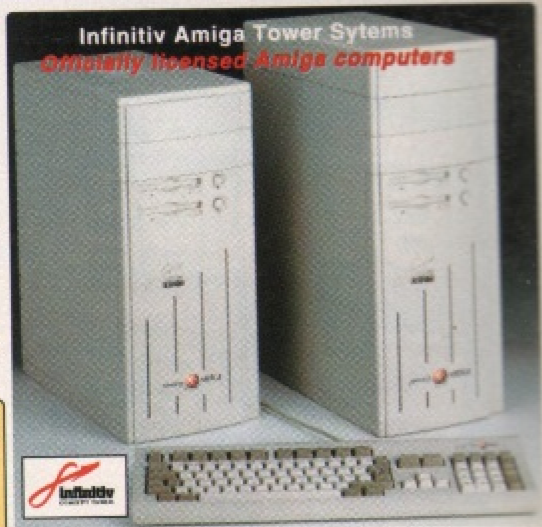
Infinitiv Kit-Z2* £279.95
- Infinitiv Tower Kit-S
- Z2 board

*Extra 5.25" Bay required with Z2 if 1200 accelerator fitted

Infinitiv Kit-Z3 £449.95
- Infinitiv Tower Kit-S
- Z3 board

Z2 board Zorro II x 5, PCI x 2, ISA x 2, Video (option) £149.95

Z3 board Zorro III x 5, PCI x 2, ISA x 2, Video (option), SCSI-II, A4000 CPU slot £319.95



Infinitiv 1200 Tower Kits
- New Design - Metal Sub Frame
- Amiga International Logo
- Built In PC Keyboard Interface
- 200W PSU
- Expandable
- Zorro II and III Capable
- No soldering
- Video Slot optional
- Full English Manual
- Easy Slide-In Tray fitting
- Amiga Keyboard Option
- Many Extras.....

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Infinitiv 1300	Infinitiv 1400	Infinitiv 1500
A1200 M/board	As per 1300 plus	As per 1300 plus
OS3.1	5 x Zorro II	5 x Zorro III
200W PSU	2 x ISA	1 x ISA
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COVER DISKS Scalos





While the delivery of AmigaOS 3.5 remains undecided, spruce up your desktop with Scalos, a first-class Workbench replacement.

Features

- 100% Workbench compatible
- Fully multi-threaded desktop
- Integral and improved pen grabbing and color remapping
- Improved icon rendering/dragging routine, including support for NewIcons and MagicWB
- Configurable icon border and text
- Smoother dragging
- Improved handling of backdrop patterns with support for tiling, scaling and randomization
- Live updating of scrolling Workbench windows
- Configurable pull-down/pop-up menus
- Support for gfx cards, Cybergraphics and 24-bit datatypes
- Object orientated API for easy modular expansion

Loading instructions

To install Scalos from this month's floppy disks, first boot up your Workbench and then insert cover disk number 185. Open this and you will see an icon called Drag_Me_To_HD_and_Click. Pick this up and drop it in a temporary place on your hard disk (or in RAM: if you have enough spare memory) where Scalos will be unpacked. Now double-click it. When this has finished, update the drawer and you will see four drawers: Scalos, PopUpMenu, NewIcons V4, and FileTypes. The first three of these have install scripts provided in each of their drawers. Double-click on each of these in turn to install each one. See overleaf for details of how to install FileTypes.

Let's face it: Workbench 3.0 is passed its best. Anybody who uses their Amiga regularly will have either replaced the ailing Workbench 3.0 desktop entirely (with, for example, DOpus) or will have crammed their WBStartUp drawer with hacks and goodies to prop up Workench's functionality. There are many examples of such widgets, including MCP, NewIcons, SwazInfo, Tools Daemon, etc.

Desktop replacement

Scalos, despite its misleading name, is actually a complete desktop replacement for Workbench. Created by the Alien Designs team, famous for their ubiquitous fix-all commodity MCP, Scalos retains the look and feel of Workbench but enhances its functionality. It offers new features like full multi-threading and pop-up menus, but the main area of improvement is its configurability. It also has the added benefit that it integrates many of the features provided by the patches mentioned previously.

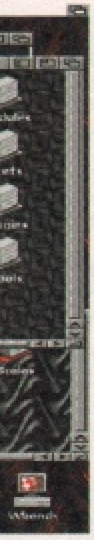
The version of Scalos supplied on this month's cover disk is the non-registered version. It is restricted to a preview mode only; it does not function as a complete Workbench replacement, and in fact requires the Workbench desktop to open as well. The registered version of Scalos may work in a Workbench emulation mode, in which it will open on the Workbench screen instead of the standard desktop. For a full Workbench emulation a registered keyfile must be purchased from the author. Registration costs 30DM or $20 (which is currently about £12.50). Full details on how to register can be found in the supplied documentation.

When initially installed, Scalos is setup to work identically to the standard Workbench, hence very few instructions are required to use it; what is provided on these pages are some notes on how to configure Scalos.

Added extras

To get the most out of Scalos, a few extra packages are needed particularly NewIcons, PopUpMenu and FileTypes. All these are provided as well on the cover disk. Also, the render.library and guigfx.library are required to perform scaling and dithering of backdrop images. Note that, because Scalos communicates directly with the NewIcons.library, it does not need the NewIcons patch to be installed. Similarly, with the FileTypes module, it is possible to achieve DefIcons functionality without the DefIcons patch.

The following text includes an introduction to the supplied Scalos Prefs programs. More detailed instructions can be found in the documentation supplied with the program or consult your Workbench manual for general Prefs info.



Scalos Prefs

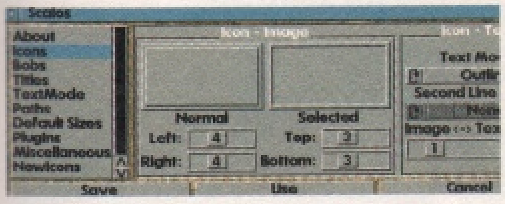
This is the main control centre for the Scalos desktop. The listview on the lefthand side of the main window provides access to the different sections of the programs.

Icons: Here you may change how icons are rendered to the screen.

Bobs: This section is used to alter how icons act when you pick them up. Options include the picking up of the icon text as well and control of icon ghosting over objects upon which they can be dropped.

Title: Allows you to modify the information that is displayed in the Workbench screen's title and the title bars of Workbench windows.

TextMode: Here you may define what information is displayed in Workbench windows when in 'View by Text' mode.



Paths: For setting various default paths where Scalos looks for things. Of special note is the Default Icons path. Scalos looks here first for Appicons and Diskicons allowing the actual icons to be overridden.

Default Size: Used to set the default window size and spacing of an icon's text from its image

Plugins: Allows new modules to be added to Scalos.

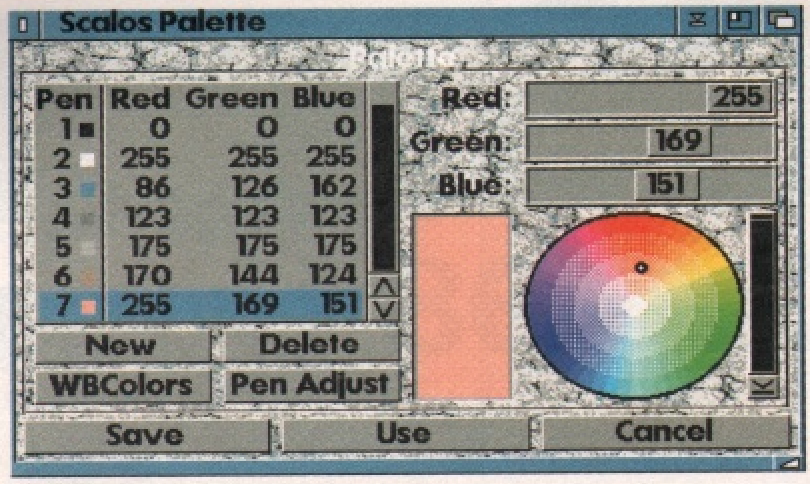
Miscellaneous: Here you may altler various features of Scalos. See documentation for details.

NewIcons: For modifying NewIcons settings. See the NewIcons manual for details.

Palette Prefs

The Scalos Palette program is used to select the colour palette and pens used by Scalos. The palette section works similarly to the standard Workbench Palette Prefs with the same colour-wheel gadget. It also includes the ability to define and lock pens, thus obviating the need for pen daemons like MagicWB. The listview on the left shows a list of the pens that will be locked when the Scalos screen is opened. New pens can be created with the New gadget, while existing pens can be deleted with the delete gadget.

Clicking on the WBColors gadget pops up a list of the current colour settings for your Workbench screen. You may drag any of these to the main pen list to obtain and lock their colours on the Scalos screen.

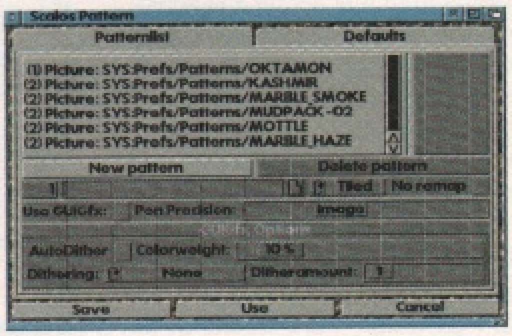


The Pen Adjust gadget pops up of a list of Scalos's current pen settings. The first nine of these are the standard Workbench pens, while the following half-shine pens are the pens used by MagicWB. The rest are pens used exclusively by Scalos. You may modify any of these by dragging a defined pen from the main list and dropping it on the desired pen. The text outline pen is used for displaying a Workbench icon's name if the IconText Mode (in Scalos Prefs) is set to Outline or Shadow. The Drawer and File text pens are used when viewing a Workbench window in text mode. The background detail and block pens are not yet implemented.

Pattern Prefs

This program is for setting the background pattern or picture for the Workbench screen and windows. The interface for Pattern Prefs is split into two pages: the first page is for defining a list of your patterns and pictures. The second page is for choosing which of these will be displayed in which window.

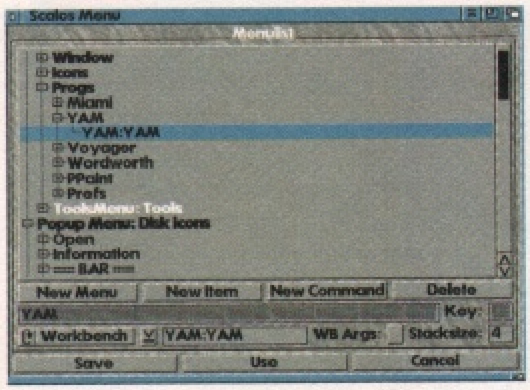
The Patternlist page has a listview gadget containing a list of the currently defined patterns. To define a new backdrop click on the



New Pattern gadget and either pop up the file requester and choose an image file to use or type its path into the string requester. The slider gadget on the left is for assigning an identifying number to a pattern or series of patterns. The cycle gadget alternates between tiling the image across the window or resizing the image to fit the window. For resizing you must have the guigfx.library installed and the the GUIGfx checkbox must be ticked.

The default page has four slider gadgets, each of which allow you to assign a series of backdrop images to be used with that particular type of window.

Desktop is for the main Workbench window, Screen for the Workbench screen, Window for Workbench windows view-by-icon mode and TextMode is for Workbench windows in text mode. If there is more than one pattern assigned to a window, then one of these patterns will be selected at random when Scalos is started. If Randomize everytime is checked then a pattern will be picked at random each time a window is opened.



Menu Prefs

The Scalos Menu program is used for configuring the normal pull-down menus and the pop-up menus displayed by Scalos. For the latter you must have the popupmenu. libary installed.

The tree structure in the listview gadget reflects the hierarchy of the menus. At the base of the tree are the Main menu and the five different types of context-sensitive popup menus. Each of these menus is then subdivided into menus, menu items and commands. The menu item is the text entry you wil see when a menu is opened. (if this is left blank a separator will be displayed) The command entry allows you to specify what action occurs when a menu item is selected. There are six types of command.

Command: Internal Scalos command. Clicking the pop-up gadget will display a list of these.

Workbench: Launches a program as if started from Workbench. By checking the WB Args box, icons may be passed to the program as arguments.

AmigaDOS: Launches a program as if started from the Shell. If the WB Args box is checked then an entry of %p in the command will be expanded to a list of any icons selected.

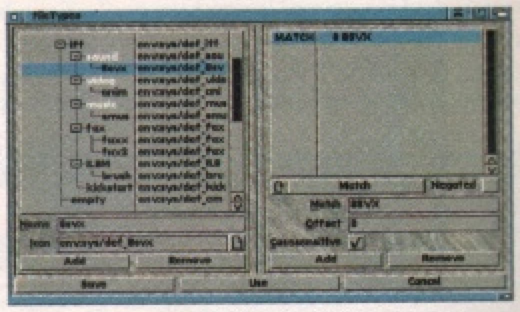
IconWindow: Opens and displays a particular window.

ARexx: Starts an ARexx script

PlugIn: Launches a Scalos Menu-Plugin.

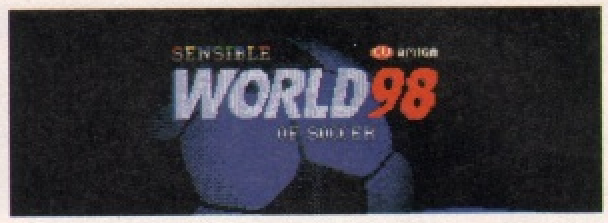
Filetypes

The Filetypes module is a plug-in



module for Scalos that achieves a similar effect to the DefIcons package supplied with NewIcons. That is, it supplies a default icon for files without their own icons based on their file type. To install it, copy the file filetypes.plugin to the drawer SCALOS:PlugIns/OOP, copy the file FileTypesPrefs to the SCALOS:Prefs drawer and use the New option from the Scalos Prefs plug-ins section to make Scalos use this module. The easiest way to configure file types is to use the Import from DefIcons option in Edit menu of the FileTypesPrefs program and select the file ENVARC:DefIcons.prefs (assuming you have DefIcons installed). Then select the Save As option from the Project menu and save the settings as filetypes.prefs in the drawer ENVARC:Scalos/. Configuring filetypes yourself is quite complex as you must instruct it how to recognize different filetypes. ■

SWOS World Cup 98 Update



Sensible World of Soccer remains the most playable football game of all time. You can take all your fancy 3D console titles and shove 'em where the sun don't shine. They may be pretty but when it comes to out and out gameplay, SWOS kicks them in to touch every time.

The good news is that Sensible Software are now producing Sensible Soccer 98. This latest incarnation sees the biggest changes of any yet, with the introduction of 3D graphics, but in a way designed to retain the feel, gameplay and sheer fun of the original. The bad news is that it is for the PC and Playstation, not the Amiga. Sensible are very pro-Amiga, but for a company of their size, developing for the Amiga is no longer possible. I am sure that they will be keen to see what Amiga Inc. have to offer with their next generation Amiga, but for now, the Amiga SWOS player is stuck in the time Warp of the '96-97 season, forever watching Juninho's mazy dribbling for Middlesborough.

Ahh, but that isn't quite true, is it? You see a brave band of dedicated Amiga SWOS players around the world have kept the game alive, releasing updated teams for others to add to their game. Notable amongst these is Gideon Cresswell, who compiled the excellent 97/98 season update. One sunny day in early May during a planning meeting held in the local ale house, inspiration struck – a timely update of Amiga SWOS would be the ideal accompaniment to the action from France on our tellies. A 'phone call to Sensible Software and another to the doughty Mr Cresswell sent them flying goalwards, and here in all it's glory is the end result – the CU Amiga SWOS World '98 update.



◀ Goal! Dwight Yorke slams one in the back of the net.

In an ideal World

Ideally, there would be a proper updater as there was in the days when these updates were commercial; unfortunately the lads at Sensible were so busy getting their World Cup tie-in out on time that they were not able to help us compile the disk. However we've come up with a solution that should be pretty straightforward.

On the disk you will find three installation icons. There is an updater for SWOS disks 1 and 2, and another for hard drive installations. Installing the hard drive update is simple. Just boot up your computer, stick the disk in the drive and open it up. Drag the drag_to_swosdrawer icon into the SWOS drawer on your hard drive, and double click on it. The rest is done for you.

Updating the floppy version is a little trickier and comes with a warning – the update can damage your data, so don't do it to your originals! Unfortunately, as disk 1 of SWOS is copy protected, you can only back up disk 2. The safest approach is to forget about the disk 1 enhancements, the game runs fine without them but you will miss out some of the tweaked pitch graphics and the new intro screens. To do this, make a back up of your SWOS disk 2 in the normal way – if you don't know how to do this, you really ought to read the manual that came with your computer! Next, take the disk out of the drive and insert the CU Amiga SWOS update disk in your drive. Open the window and double click on the Clickfordisk2 icon. Just follow the instructions on the screen (remembering to insert the backup of disk 2 not the original) and bingo bongo! SWOS '98 is ready to play.

The procedure is similar with Disk1, except that in this case you cannot back up the disk, so you will have to do this to your original. It should still work fine, but if it doesn't your game will be gone forever. Frankly, we do not advise you to do this unless you have a spare copy.

Updates

Sensible World of Soccer '98 contains updates to the international teams to allow you to play the World cup with up-to-date teams. Unfortunately the data format of the tournament could not be changed, so you won't get the right structure from the default World Cup selection. You can either edit out the teams from that set up and select correct ones, or you can do your own custom tournament for extra realism – check the boxout.

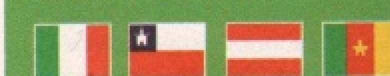
If you have a hard drive install, you will see that many of the club teams have been updated too. These are the updates from Gideon's earlier '97/98 updates, and are more up to date if not really up to the minute. If you want the old data back, copy the team files from the data drawer on your SWOS disk 2 – except; team.080, team.081, team.082, team.083, team.084 and team.085 – to the swos/data drawer on your hard drive.

The groups

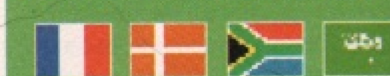
Group A:
Brazil, Scotland, Norway and Morocco



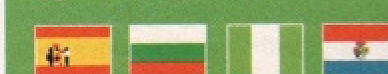
Group B:
Italy, Chile, Austria and Cameroon



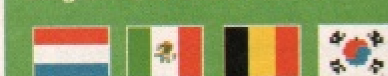
Group C:
France, Denmark, South Africa and Saudi Arabia



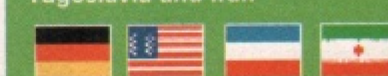
Group D:
Spain, Bulgaria, Nigeria, Paraguay



Group E:
Holland, Mexico, Belgium and South Korea



Group F:
Germany, USA, Yugoslavia and Iran



Group G:
England, Colombia, Romania and Tunisia



Group H:
Argentina, Croatia, Jamaica and Japan



FAQ

Q. Can I get those club team updates on my floppy disk?
A. You can try. Copy all the files in the swoswack/data subdirectory of the coverdisk into the data drawer of your SWOS disk2 back-up, replacing the older versions that are there. They should fit no problem and off you go.

Q. Which versions does this work with?
A. It works with original SWOS, it works with SWOS 96-97. We haven't tested it with others, but it probably works with them, too. It probably even works on PC SWOS.

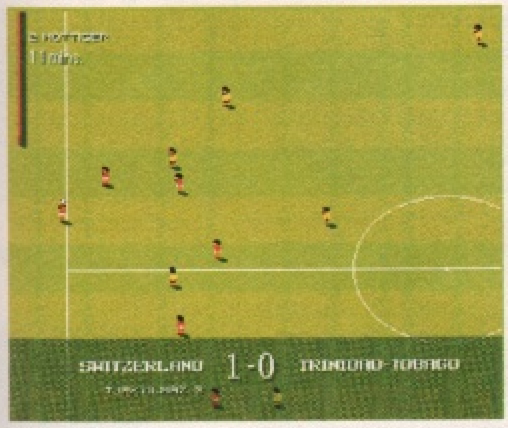
Q. The game seems to hang at the end of a season.
A. Some people have reported this problem. Save your game before you select next season. Then move your new team files to a temporary directory, and stick the old ones back in. Now you should be able to do the next season bit without the game crashing, save it again and stick the updates back in place.

Q. I have a problem with it, how can I contact Sensible Software for advice?
A. DON'T. This is not their update, please don't bother them with questions because they won't know the answer.

Q. How come there isn't more updates?
A. We wanted to get it out for the summer! If there is demand for a more total update, we may look into the possibility.

Q. It doesn't work!
A. Did you follow the instructions to the letter? It should work fine, but there are things we simply don't know about the game. It's voodoo, man – sacrifice a chicken, that might make it go.

Q. I don't think much of these teams, the players are all wrong!
A. If you are willing, get a SWOS editor and make it right. Then send your team data to us!





▲ Nice new teams - Now you too can take Michael Owen to France and leave him on the bench.

The tournament

You can't trust these countries. Every time a new atlas is brought out, five more pop along. This year's World Cup has been expanded to 32 teams. The first round is a group stage consisting of 8 groups of 4. After that it goes into the seeded knock-out rounds. For a shorter tournament have the top two from each group go through, for a shorter tournament just make it the winners. SWOS randomly assigns groups, so you'll be lucky to get the correct teams in each group, but it's below if you want it. If you start a tournament and get the right groups, please save the tournament immediately and send us a copy, we'll put it on the coverdisk so everyone can have a go. Good Luck!

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❑ 4593 IDE FIX 97
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❑ 4324 ALIEN HUNTER
Alien breed clone, kill em all
❑ 4348(ABCD) ANGST DOOM
DOOM style blood and gore!
❑ 4354 BANANA ISLANDS
Rainbow Islands clone. Classic!
❑ 4410 SENSIBLE MOON SOCKER
Sensible Socker on the moon!
❑ 4505 BREED 96
Command and Conquer Clone!
❑ 4536 CAPTAIN CUSTARD
Shoot 'up with missiles on yo tale!
❑ X4331 SUPER BALLZ 2
Marble Madness, Marbleouse!
❑ X4532 BOOZ - O - METER
Beer drinkers game, very funny!
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FAULTY TROUBLESOME COMPUTER??
CALL FOR COLLECTION OR PERSONALLY DELIVER TO THE EXPERTS FOR FAST RELIABLE REPAIR OF YOUR AMIGA
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MOUSE MAT..MOUSE HOLDER..
DISK CLEANING KIT..ADD £10 REPLACE MOUSE
BARGAIN HARD DRIVES

EZ-VGA Mk2
EZ-VGA Plus



EZ-VGA non-upgradeable s/doubler 23F-15F **£59.95**
EZ-VGA Mk2 upgradeable s/doubler 23F-15F **£74.95**
EZ-VGA Plus s/doubler/flickerfixer 23F-15F **£119.95**
EZ-VGA internal scandoubler for tower **£59.95**

Engineering-workstation quality 17" monitor, 0.26 dot pitch, ***1600 x 1280 @75Hz non-interlaced***, 1yr on-site + 2yrs RTB warranty **£399.95**

DigiCams w/ Amiga s/w



Fuji DS-7 Digital Camera with mains adapter/nicad recharger

- √ 640 x 480 x 24bit pixel resolution - ideal for Web graphics - with focus from 9cm to infinity.
- √ Stores up to 30/60 low/high res pictures in Jpeg format on exchangeable 2MB SmartMedia card
- √ Comes with Amiga CamControl software (see right) as well as PC & Mac software & cables
- √ 1.8" colour LCD display, bidirectional serial interface B&W TV output, time & date stamping.
- √ Self timer, auto white balance, aperture-priority auto exposure with manual EV adjustment.
- √ Equivalent to 38mm lens/ISO 100 sensitivity in 35mm camera terms.

Special Purchase - just £349.95 w/mains adapter & CamControl s/w

Eyetech EZ-TOWER Options

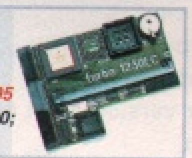
	Backplate Kit	DIY* EZ-Tower	Full EZ-Tower	EZ-Tower Plus
DF0: face plate, cable	*Yes*	*Yes*	*Yes*	*Yes*
Custom backpanel w/SCSI,audio KO's	*Yes*	*Yes*	*Yes*	*Yes*
A1200 power and LED adapters	*Yes*	*Yes*	*Yes*	*Yes*
CE-approved metal PC case	*n/a*	*Yes*	*Yes*	*Yes*
No of bays/PSU capacity	*n/a*	*10/250W*	*10/250W*	*10/250W*
Accessible PCMCIA slot	*Yes*	*Yes*	*Yes*	*Yes*
DIY assembly instructions	*Yes*	*Yes*	*n/a*	*n/a*
Installation instructions	*Yes*	*Yes*	*Yes*	*Yes*
PC board/Siamese compatibility	*Yes*	*Yes*	*Yes*	*Yes*
Assembled & A1200-ready	*No*	*No*	*Yes*	*Yes*
EZ-Key adapter & Win95 k/b	*Option*	*Option*	*Option*	*Yes*
Eyetech installation option	*No*	*No*	*Yes*	*Yes*
Cost with options as specified	*£39.95*	*£79.95*	*£99.95*	*£148.95*

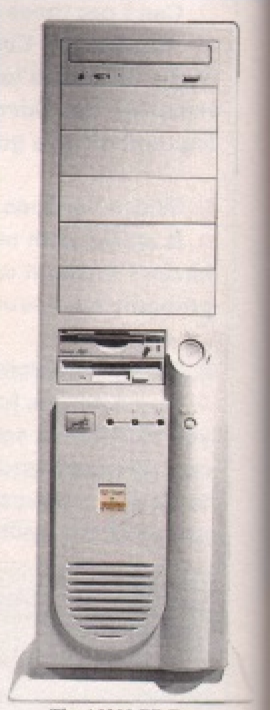
* With the DIY *EZ-Tower* you have to remove the PC tower backpanel and some internal shelving and fix the new backpanel in place

Stop Press!!! Special Purchase of Apollo '030EC/33Mhz A1200 accelerators (max 8MB) from £49.95 - whilst stock's last!

Apollo Turbo 1230LC '030EC/33MHz - Just £49.95

Options: 33Mhz FPU +£10; 4MB +£10; 8MB +£20; MMU (non-EC) version +£10





The A1200 EZ-Tower

CD Writing Systems from Eyetech

- √ MakeCD-personal from Eyetech includes SCSI & ATAPI TAO CD-Writer support.
- √ CD-Writer systems available for A1200 & A4000 Amiga systems - internal or external.
- √ Extensive CD audio and data writing support.
- √ Backup 650MB in multiple sessions for <£2.00!

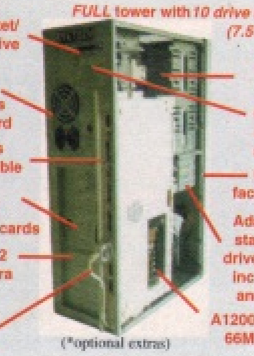


Special ATAPI edition from Eyetech

MakeCD (ATAPI/SCSI) software - £38.95
10x CD recordable disks - £19.95

Bare CDR 2/8 Writer mechanism + MakeCD s/w - *£279.95*
CDPlus-Gold CDR 2/8 Writer system + MakeCD s/w - *£339.95*
CDPlus-MT/DT CDR 2/8 Writer system + MakeCD s/w - *£299.95*
With EZCD-SE i/f, 44-way + 40-way cables & CDROM s/w - add £20
With EZCD-Mk4 i/f, 44-way + 40-way cables & EZ-IDE s/w - add £30

"This definitely one of the easiest solutions to building your own tower." Amiga Format
"The Eyetech tower offers clever solutions with a Velcro easyfit mentality" Cu Amiga



(*optional extras)

Now You've Got Tower Power!

Apollo Accelerators

A600 33 MHz '030 MMU & FPU to 32MB (7 Mips) - *Just £69.95*
A1200 25MHz '030 with MMU & FPU. (5 Mips) - *Just £59.95*
A1200 33MHz '030 with MMU & FPU. (7 Mips) - *Just £69.95*
A1200 25MHz '040 with MMU & FPU. (19 Mips) - *Only £128.95*
A1200 33MHz '040 with MMU & FPU. (25 Mips) - *Only £158.95*
A1200 40MHz '040 with MMU & FPU. (30 Mips) - *Only £188.95*
A1200 50MHz '060 with MMU & FPU. (39 Mips) - *Only £268.95*
A1200 66MHz '060 with MMU & FPU. (51 Mips) - *Only £318.95*

phase5 PowerUp PPC + '040/'060 Accelerators

Without SCSI (not upgradeable)
A1200 160 MHz PPC with '040/25/MMU/FPU. - *Only £248.95*
A1200 160 MHz PPC with '060/50/MMU/FPU. - *Only £478.95*
A1200 240 MHz PPC with '040/25/MMU/FPU. - *Only £368.95*
A1200 240 MHz PPC with '060/50/MMU/FPU. - *Only £598.95*
With factory-fitted onboard Fast-SCSI II interface - add just £50 to the above prices

4MB - £13.75; 8MB - £24.95; 16MB - £34.95; 32MB - £69.95
Limited offer - 20% off these memory prices when purchased with an Apollo or phase5 PowerUp PPC accelerator!

A1200 *TowerDrives*

Thinking of buying a **BIG** drive? Dont waste your money on ***ANY DRIVE OVER 4.3GB*** as the Amiga O/S doesn't support it! (2^32-1 bytes actually). They appear to work but overwrite the RDB after 4.3GB into the drive. Be warned!

- √ All drives come ready-to-use with WB3.0 preinstalled & WB2.x install script.
- √ All drives over 100MB come with over 45 top quality utilities (not shovelware) ***and*** MMe multimedia authoring software preinstalled, configured and ready-to-run.

TowerDrives:
1.7GB £109.95 2.11GB £119.95
3.2GB £139.95 4.3GB *(max!)* £159.95

2.5" InstantDrives for the A600/A1200/SX32

20MB	An entry-level drive for the SX32/A600.	£34.95
170MB	An entry-level drive for the SX32Pro/A1200	£69.95
720MB	A drive for serious A1200/SX32 Pro users	£119.95
1.4GB	A high performance drive for power users	£159.95
1.8GB	Top-class drive for the A1200/SX32Pro	£179.95

PortPlus & PortJnr high-speed serial (460Kbd) and parallel (800KB/sec) ports for the A1200



PortPlus* - 2x s & 1 x p - *£79.95
PortJnr* - 1x serial port - *£39.95

All EZ-Towers ...



...feature a slide-out mounting frame for fitting either ...



...a standard PC motherboard and cards, or...



...a Zorro board and cards (as well as your A1200).

Looking for an all-in-one package? Why not treat yourself to the Eyetech EZ-Tower Professional Pack 2?

Just look what you get for an unbelievable *£799.95!*



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The Eyetech Professional pack comes with a full EZ-Tower, new WB3.1 A1200 and ...

- √ ***EZ-Tower*** with full UK specification A1200, ***Kickstart 3.1/Workbench 3.1*** disks and manuals, mouse, mousemat, TV lead and 250Watt psu.
- √ ***EZ-Key*** keyboard adapter, ***Windows95 keyboard.***
- √ ***33MHz '040*** processor (approx 25 Mips) with MMU & FPU and ***32MB*** of program memory.
- √ ***3.2GB TowerDrive*** with Workbench 3.1 and Magic Pack software preinstalled
- √ ***20-speed CDROM*** including the ***Eyetech EZCD-Mk4 4-device buffered interface*** with ***fully registered EZ-IDE*** CDROM/hard drive/IDE Zip drive/LS120 driver software
- √ ***880KB floppy drive*** including faceplate
- √ Fantastic software bundle including ***Wordworth 4SE, Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, Pinball Mania and Whizz***
- √ All items fully installed, tested and ready-to-go!



EZ-KEY & Win95 k/b,



33MHz '040 & 32MB fast RAM,



20x CDROM, 3.2GB HD, EZ-IDE s/w & 4-way EIDE i/f .

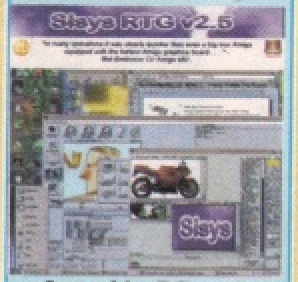
AND the option to have:

- √ An ***LS120*** 720KB/1.44MB/120MB super floppy drive/cable installed in your machine for ***just £84.95 extra*** (at time of purchase only)



The optional LS120 120MB Superfloppy

The fantastic Siamese RTG2.5 ethernet graphics system for your Amiga ...



... Just add a PC mother-board and it becomes the perfect partner for your EZ-Tower'd A1200!

Then use PC-side hard & floppy drives, CDROMS, printers and graphics cards as native Amiga peripherals!

The Eyetech Ethernet Siamese pack contains:

- √ A1200 PCMCIA ethernet card and driver software
- √ PC ethernet card and driver s/w
- √ Ethernet cable, 'T' pieces and terminators
- √ Full Siamese RTG2.5 software

All this for just £189.95!!!
(Amiga TCP/IP stack & Win95 O/S required)

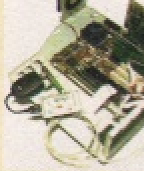
Love your A1200 but need PC compatibility for work or study purposes? Then you need Eyetechs EZPC-Tower system!

Just *£999.95* gets you a fully loaded Siamese ethernet system with:



AMIGA

- √ A full Amiga ***EZ-Tower*** system ***ready to take your A1200.***
- √ Jumperless PC Pentium board, ***200Mhz MMX cpu, 64MB*** memory (exp to 256 MB), **Win95 k/b, mouse** & second fan.
- √ ***Full-screen full motion full colour video capture*** card with ***TV tuner and frame grabber*** (with video camera input).
- √ High performance, ***high res graphics card*** with full screen/full frame rate ***MPEG playback.***
- √ ***32-voice*** high performance ***sound card*** with direct-to-disk, ***CD-quality recording software.***
- √ ***3.2GB*** hard drive, ***32-speed*** CDROM, ***2x S,1xP & USB ports*** and 1.44MB FDD
- √ Full ***ethernet Siamese 2.5RTG*** system with ***Amiga and PC ethernet cards***, driver software, cables & terminators and ***scandoubling system for non-retargetable Amiga screens*** such as games. (The ethernet Siamese system requires an Amiga TCP/IP stack - as used by Internet software - and Windows95 operating system - see below).



EZPC & Amiga ethernet adapter





HD,CDROM,FDD & optional CDROM Writer upgrade

EZPC options (at time of ordering only):

- √ CDROM upgrade to CDROM 2x writer, 8x reader ***+£199.95***
- √ Windows 95R2 OS & Lotus Smartsuite bundle (WordPro, Lotus 123, Approach Database, Organiser, Freelance Graphics etc) ***+£99.95***
- √ Miami Siamese TCP/IP stack for Amiga (fully registered) ***+£24.95***

Ring for hard drive, CDROM, memory & processor upgrade options

The Eyetech Amiga Parts and Price Index July 1998 issues

Interfaces and adapters

ADPT-AUD-EZTW	EZTwr audio mix/adapter for A1200/CDROM	19.95
ADPT-AUD-CDSE	CDPlus-SE A1200/CD audio mix/adapter	19.95
ADPT-AUD-RCA	RCA(phono)-M -> 2xRCA-F adapter	2.50
ADPT-AUD-RCA-G	RCA(phono)-M ->2xRCA-F gold plated adapt	3.50
ADPT-CDPL-PWR	CDPlus external power socket + HD pwrcab	9.95
ADPT-DF0-FP	Tower faceplate adapter for A1200 int FD	6.95
ADPT-DF0-TWR	34-34 way cable and faceplate for DF0	12.95
ADPT-ETH-BNCT	BNC T-piece 2xM + 1xF	4.95
ADPT-ETH-TERM	Ethernet BNC coax terminator 50R	4.95
ADPT-EZKY	Amiga/PC k/b -> A1200 kbd ribbon cable	39.95
ADPT-EZKY-A4K	A1200 EZKey/6p->5p adptr/A4000 kbd bundle	79.95
ADPT-EZKY-W95	Amiga/PC k/b->A1200 rib cab+Win95 kbd	49.95
ADPT-HD-2/3	2.5"/44way -> 3.5"/40w+4w & mtg bracket	11.95
ADPT-HD-3/5	3.5" Zip/SyQuest/FDD/HD brkt/pl ->5" bay	5.95
ADPT-KBD-5P6P	Amiga/PC k/b adapter 5p din-F ->6p m/d-M	5.95
ADPT-KBD-6P5P	Amiga/PC kbd adapter 6p mindin-F ->5pd-M	5.95
ADPT-PCM-ETH	PCMCIA ethernet card with Amiga/PC drvrs	89.95
ADPT-SCAR-CMP	Amiga comp video (RCA)+2xAudio to SCART	12.95
ADPT-SCAR-RGB	Amiga 23p+2xRCA to RGB TV SCART + audio	12.95
ADPT-SCSI-EZTW	EZTwr SCSI adpt 30cm 2xCent50F, 1xIDC50F	19.95
ADPT-SQ3-PAR	SQ3 adapter Epson scanner->par prt cable	9.95
ADPT-SER-25F9M	25p-F to 9pM serial RS232 adapter	4.95
ADPT-SER-25M9F	25p-M to 9pF serial RS232 adapter	4.95
ADPT-SW-S/K	Dual monitor & k/b switchbox	19.95
ADPT-VGA-15M23M	VGA 15pHD-M -> 23pD-M Amiga RGB adapter	14.95
ADPT-VGA-15M9F	Adapter from 15p HD-M VGA to 9pD-F	9.95
ADPT-VGA-9M15F	Monitor adapter 9p D-F to 15p HD-M	9.95
ADPT-VGA-AMON	Auto Amiga/CV643D m/sync monitor switch	39.95
ADPT-VGA-BUF	Amiga 23pin-F to 15pinHD-F VGA adapter	19.95
ADPT-VGA-SDSE	External Amiga s/doubler 23F-15M non-upgrad'le	59.95
ADPT-VGA-SDBL2	External Amiga s/doubler 23F-15F upgradable	74.95
ADPT-VGA-SDFF	External Amiga s/doubler with f/fixer 23F-15F	119.95
ADPT-VGA-SDUG	SDBL2 to SD-flickerfixer u/g	50.00
ADPT-VGA-INT	EZ-VGA internal A1200 s/doubler non-upgrad'le	59.95
ADPT-VGA-UNBF	Amiga 23 pin(f)-15 pin HD(f) VGA adapter	12.95
INT-12C-DSKPL	DiskPlus FDD D/H/S dens i/f A1200clkport	69.95
INT-12I-EZCD4	Mk4 4-dev buf IDE i/f w/AIPU w/A1200 CD s/w	39.95
INT-12I-EZCD4/C	Mk4 4-dev buf IDE i/f w/3x40,2x44 13cm cabs	49.95
INT-12I-EZCD4/C/E	Mk4 4-dev buf IDE i/f w/3x40, 2x44cabs, EZIDE	59.95
INT-12I-EZCDSE	Economy 4-dev buf IDE i/f w/A1200 CD s/w	24.95
INT-12I-EZCDSE/C	Mk4 4-dev buf IDE i/f w/3x40,2x44 13cm cabs	34.95
INT-12I-EZCDSE/C/E	Mk4 4-dev buf IDE i/f w/3x40, 2x44cabs, EZIDE	49.95
INT-4I0-CD4	4-device EIDE interface for A4000	19.95
INT-FDD-DF0	Interface for std Sony FDD for DF0 880KB	14.95
INT-SER-PPL	PortPlus 2x 460kb ser + hispeed par port	79.95
INT-SER-PTJR	PortJunior - 460KB serial i/f for A1200	39.95

Zorro 2/3 boards and adapters

ADPT-Z2-A12/1	A1200 ZII adapter with 1 ZII slot	99.95
ADPT-Z2-A12/7	A1200 ZII adapter w/ 7xZII + 5xISA slots	149.95ADPT-
Z2-A12/7/UG	A1200 ZII adapter 1->7 slot u/g (p/x)	79.95
GFX-Z2-CV/Z2-1	1-slot Z2 +C643D bundle without f/fixer	249.95
GG2-Z2-BB	GG2 Zorro2 brigeboard for PC ISA periphs	119.95
GG2-ISA-ETH	NE2000 ISA ethernet card BNC for GG2-BB	19.95
GG2-ISA-MIO	Multi-I/O ISA card 2xIDE,2xSER,1xP	14.95
INT-Z2-PPL4	PortPlus4 - Zorro 4xSerial + expansn bus	89.95
INT-Z2-PPX	2xS +1xP expansion for INT-Z2-PPL3/4	59.95

Cables

CAB-AUD-CD	CDROM invt'd T audio cab .6m + 2xRCA plg	9.95
CAB-AUD-MIX	RCA(phono)-M -> RCA-M+RCA-F mix lead 1.8m	6.95
CAB-AUD-MJ/PH	3.5mm st minijack->2xphono-M plugs 1.2m	5.95
CAB-BT-EX10	10m BT extn cable + 2 way phone adapter	9.95
CAB-BT-MOD	FCC684/6 to BT4 modem phone lead 1m	5.95
CAB-ETH-60C	Ethernet coax/BNC-F 60cm for Siamese	9.95
CAB-FDD-EX2M	External FDD extn cab 23-M -> 23-F 2m	14.95
CAB-FDD-EX50C	External FDD extn cab 23-M -> 23-F 0.5m	12.95
CAB-HD-FD/4	23p-M-floppy -> 4p-F HD/CD pwr 0.9m	9.95
CAB-HD-KIT	A1200 full 3.5" hard drive fitting kit	24.95
CAB-HD-PWXTN	4p-M -> 4p-F HD/CD power cab ext 0.9m	9.95
CAB-IEC-1.5M	AC power cable 13A plug -> IEC skt 1.5m	2.95
CAB-IEC-4X13	AC powerstrip 1xIEC-M -> 4x13A-F mains socket	19.95
CAB-KBD-MF	5p DIN M - 5p DIN F k/b ex cable 1.2m	7.95
CAB-KBD-MM	5p DIN M - 5p DIN M k/b cable 1.2m	7.95
CAB-PD-30C	44->40way 3.5" HD data & pwr cabs -A1200	14.95
CAB-SCS-25/50	SCSI cable DB25-M -> Cent50-M 1m	9.95
CAB-SCS-25M/25M	SCSI cable DB25M-DB25M mac type	9.95
CAB-SCS-50M/50M	SCSI cable Centr50M->Centr50M 1m	9.95
CAB-SER-EX2M	DB25-M -> DB25-F RS232 extn cab 2m	7.95
CAB-SER-EX50C	DB25-M -> DB25-F RS232 extn cab 0.5m	6.95
CAB-SER-SSQ	9pDM->9pDF SurfSq EZTwr ser extn cab 50cm	9.95
CAB-UPT-X60C	Crossed twisted pair/RJ45 for Siays 60cm	6.95
CAB-VGA-10H15M	10p IDC-F header->VGA 15pHD-M for CV64-3D	9.95
CAB-VGA-MF	15p DM-HD - 15p DF-HD VGA ext cable 2m	9.95
CAB-VGA-MM	15p DM-HD -15p DM-HD VGA cable 2m	9.95
CAB22-2W-9C	22way-Fx2 A1200 clock port cable 9cm o/a	5.00
CAB34-2W-50C	34way-F x2 FDD ribbon cable for tower	9.95
CAB40-2W-20C	40 way IDE cable 2 connector 20cm	5.00
CAB40-3W-1M	40Way IDE/HD/CD cable 3 contr 1m o/a len	9.95
CAB40-3W-60C	40w-F x3 HD/CD/IDE cable 20+40=60cm o/a	9.95
CAB40-CUST	Custom cable 3x40way IDE up to 1.5m	19.95
CAB40-ODC	IDE IDC40-F -> IDC40-M with mtgs 15cm	9.95
CAB44-2W-13C	44way (2.5" HD) cable 2 cntr, 13cm o/a	9.95
CAB44-2W-60C	44way (2.5" HD) cable 2cntr, 60cm o/a	19.95
CAB44-3W-12C	44way (2.5" HD) cable 3 cntr, 12cm o/a	12.95
CAB44-3W-24C	44way (2.5" HD) 7+17cm,3 cntr,24cm o/a	14.95
CAB44-CD-13C	44way (2.5" HD) cable sold with CD/HD 13cm	6.00

Eyetech's Summer Sizzlers: Amiga CDWriters & s/w from £279.95; Buffered i/f & s/w from £24.95; A1200 3.1 ROM/Disk sets £39.95; Digital cameras with PSU, LCD screen, SmartMedia card & Amiga s/w £349.95; Siamese RTG2.5 ethernet packs £189.95; Amiga DigiCam s/w - £39.95; DIY EZ-Towers from £79.95; 20xCDPlus-SE - £99.95; 030/33 accel's from £49.95, w/4MB - £59.95; Amiga trackball £14.95!!!

(New) AMIGA HEALTH WARNING

"A buffered IDE interface is essential to avoid overloading of the A1200's IDE port when adding extra devices" - John Kennedy - AF - 7/97

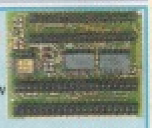
Don't be tempted to skimp. Preserve your Amigas health with IDE technology from Eyetech - *THE* IDE specialists. The Eyetech *EZCD-Mk4* fully buffered 4-device interface *with active IRQ pull-up* (AIPU) for high performance A1200 systems is now available.
For less-exacting systems our economy interface - the *EZCD-SE* - is available for *just £24.95 including licenced CDROM driver software* - see below. Its a small price to pay to preserve your Amigas health.

The new EZCD-Mk4 High Performance 4-device buffered interface with AIPU from Eyetech - Just £39.95

- High performance active interrupt control circuitry essential for highly expanded and/or accelerated A1200s.
- Comes with fully functional (non-shareware) CDROM s/w

EZCD-Mk4 and CDROM software	*- just*	£39.95
EZCD-Mk4, CDROM s/w with 3x40 way and 13cm 44-way cables		£49.95
EZCD-Mk4 with full EZ-IDE s/w and 40- & 44-way cables		£59.95

The new EZCD-SE economy 4-device buffered interface from Eyetech - Just £24.95



- Suitable for most medium performance A1200 systems.
- Comes with fully functional (non-shareware) CDROM s/w
- Trade up to EZCD-Mk4 i/f at full buying price (less carriage) within 30 days (if required).

EZCD-SE and CDROM software	*- just*	£24.95
EZCD-SE, CDROM s/w with 3x40 way and 13cm 44-way cables		£34.95
EZCD-Mk4 with full EZ-IDE s/w and 40- & 44-way cables		£49.95

Amiga Digital Camera Software

(from the author of ScanQuix3)



- Versions available for most popular models of Kodak, Olympus, Casio, Minolta and Fuji digital cameras.
- Picture transfer, camera control & slideshow options.
- Selectable serial device support for data transfer.
- Integrates directly with PPaint, DPaint, Pagestream, AdPro, Photogenics & with other programs via Arexx

CamControl software only	*£39.95*
CamControl & PortJnr i/f	*£69.95*

Amiga 1200 Magic Packs



- Direct to Eyetech from Amiga International Inc.

- Full UK specification with Kickstart 3.1/Workbench 3.1 disks and manuals, UK psu, mouse, mousemat and TV lead and 2MB graphics memory (in addition to any memory expansion included in the packs below).
- Fantastic software bundle including Wordworth 4SE,Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, Pinball Mania and Whizz
- Hard drive versions come with Scala MM300 preinstalled
- Other options available - please ring. EZ-Tower options also available from £349.95

Eyetech Starter Pack

Diskette based system as above
Add an '030/33/MMU/FPU with 8MB for just £79.95 and/or a170MB HD for just £60.00
Just £189.95

Productivity Pack 2

170 MB hard drive system with software preinstalled
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PSU capability	1 x CDROM	4 x CD/HD + A1200	1 x CDROM + 1 x HD
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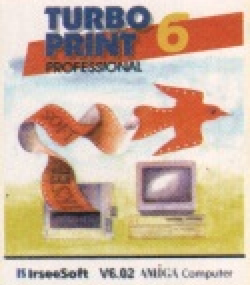
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BeOS
Son of AmigaOS?

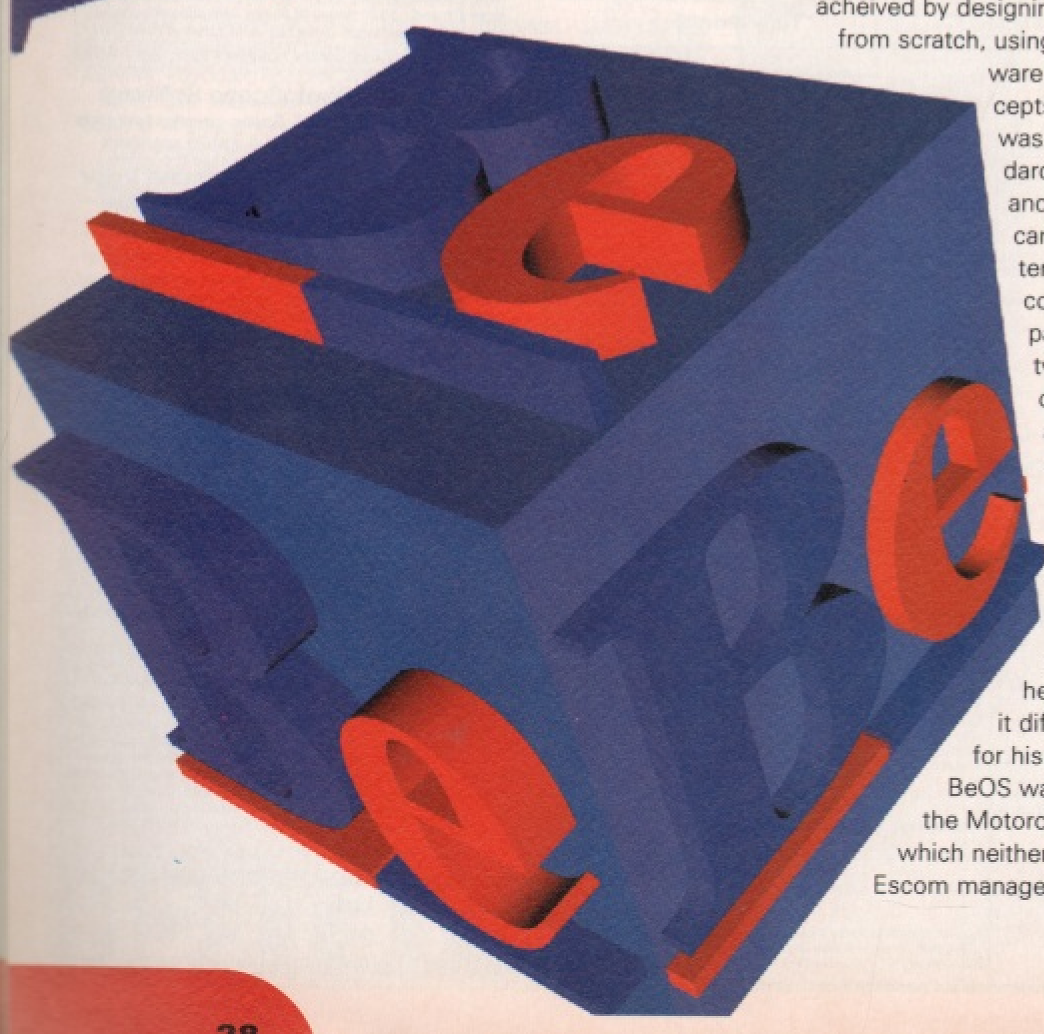
Shortlisted by Amiga Inc as a possible partner for the development of the next Amiga operating system, Be have been making steady and innovative progress with their own BeOS, dubbed 'The Media OS'. Time to investigate...



Buzzwords are all in computer science and the BeOS has often been dubbed the 'Buzzword OS' by fans and sceptics alike. As we'll see, the reason for this is the huge feature set the BeOS offers that seems to have been taken straight from something like The Hacker's Dictionary. Unsurprisingly, Be, Inc. like to avoid this tag, and they are trying to sell the BeOS as being the only "Media OS". By this they mean that it is "the only personal computer operating system that's been designed from the ground up to support a new generation of multimedia applications". Marketing speak aside, the core concepts behind the BeOS may actually be pretty familiar to us Amiga fans. And if you delve into its history and look at its list of active developers and influences you'll maybe realise why....

Be history

Be, Inc. was formed in 1990 by Jean-Louis Gassée to investigate what could be acheived by designing a computer system from scratch, using leading-edge hardware and software concepts. The principal goal was to create a new standard in price-performance and to provide a significantly more friendly system for developers. Of course, this was a comparison against the 'big' two operating systems of the day: Windows and MacOS. In an ideal world, Jean-Louis would have had to look no further than the AmigaOS, but those were the days when Commodore still ran the show, so he may well have found it difficult to gain support for his ideas. Ironically, the BeOS was eventually born on the Motorola PowerPC, a CPU to which neither Commodore nor Escom managed to port the AmigaOS.



The BeBox

In the early days, the BeOS ran only on a special computer designed by Be, Inc. Released towards the end of 1995, the BeBox was a very advanced piece of hardware with an extremely modest name. The uniquely fashioned case only hinted at the power within, sporting two vertical runs of LEDs. At first sight they looked just like standard stereo audio VU meters, but they were actually CPU load meters: one for each of the BeBox's two 66MHz PowerPC 603 processors. The multiprocessor hardware was one of the main ways Be, Inc. felt they could achieve their goal of a better price-performance ratio. Their logic cannot be faulted: because of the premium that the top-end CPUs attract, it can cost just as much to buy, say, two older 166MHz CPUs than one cutting-edge 233MHz CPU. And with two older CPUs you can often get significantly more CPU cycles (332MHz against 233MHz in this example).

Plus, if you're in the market for the fastest possible machine, you can obviously do better if you're not limited to using just one top-end CPU. However, the problem with multiprocessing is that it's not a simple thing to just 'bolt on' to an operating system, especially one that doesn't do proper multitasking in the first place. In fact, to get the best out of having multiple CPUs, the OS really needs to have been constructed in such a way that they are used effectively and transparently to the running programs. Even today, this is something that sets the BeOS apart from all versions of Windows and MacOS.

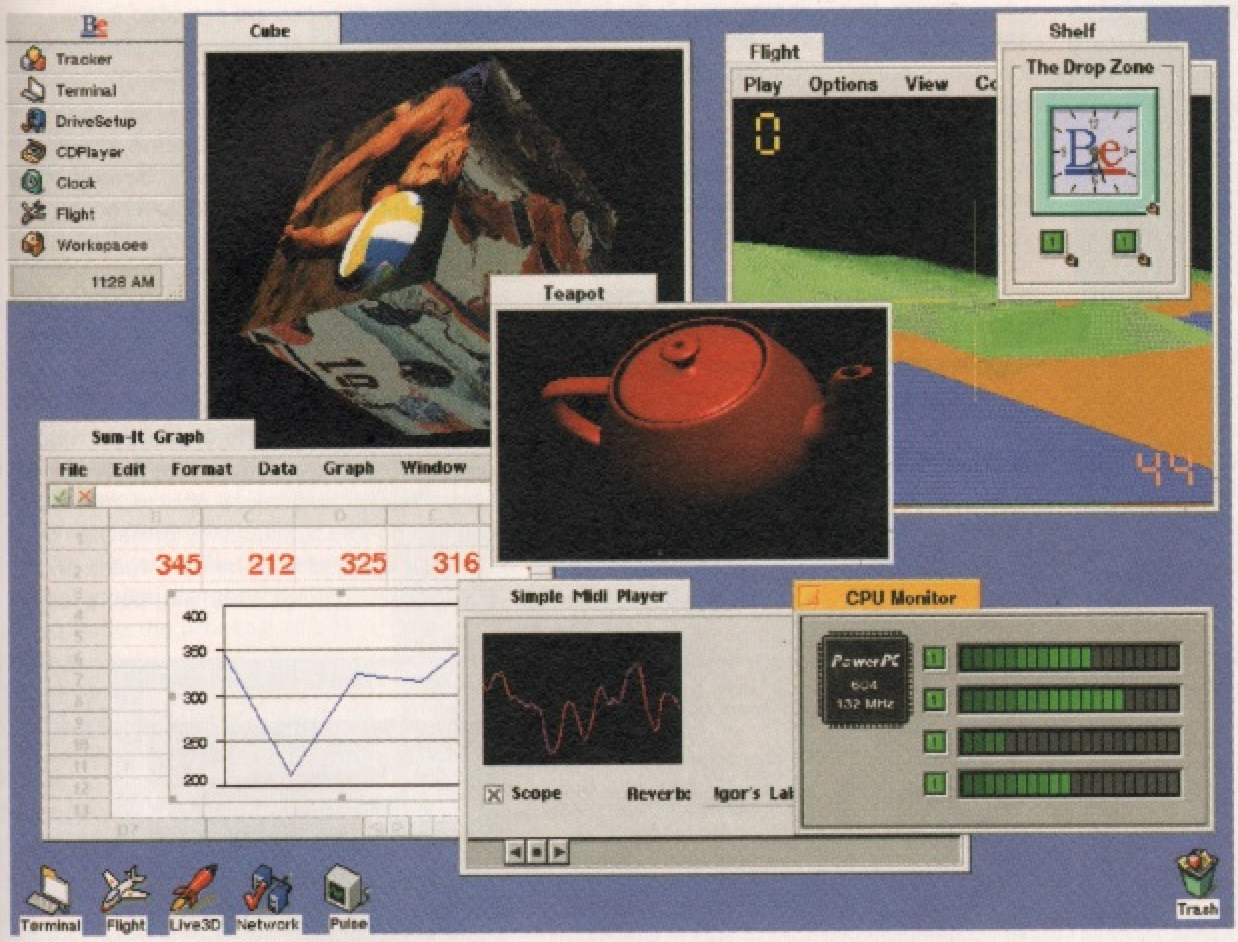
Cross-platform

In January 1997 (just after its first birthday) the BeBox was discontinued. The BeOS had become compatible with PowerPC Macintoshes and multiprocessor Macs were starting to become affordable (from clone manufacturers).

The move out of the hardware business was a big turning point for Be, Inc. First, it allowed them to concentrate on the operating system they were developing and, second, it gave them their first taste of porting their code to work on a different architecture (albeit still based around PowerPC

CPUs). The next step was probably the most difficult decision that Be, Inc. have so far had to make: porting the BeOS to the Intel systems that reside on 95% of the desktops around the world.

March 1998 saw the first public release of BeOS that ran on their proprietary BeBox machines, single and multiple processor PowerMacs, and single and multiple processor Pentium PCs. Be, Inc. seem to have single-handedly satisfied the world's desire for cross-platform portability, something which many people have been expecting (and hoping) that the Java programming language would achieve. Of course, that may still happen even if the BeOS takes off, since the BeOS programming tools include Java!



Features

As suggested above, the BeOS feature set is very rich and a number of the significant concepts seem to owe a lot to the AmigaOS. The overview list goes something like this:

- **Symmetric multiprocessing**
- **Pervasive multithreading**
- **True (preemptive) multitasking**
- **Optimised for real-time media and communications**
- **Object-oriented API**
- **Clarity & simplicity**

Consult the boxes scattered around this article for definitions of some of the more obscure jargon. One point that should need no introduction is the preemptive multitasking. As you're probably well aware, this is something that Windows and MacOS have still not managed to achieve properly, while the humble Amiga has been doing it since 1985. Proper multitasking is a 'Good Thing' because it allows you to run several programs at once (such as a paint package, a word processor and a print spooler) in a seamless way, while still maintaining a responsive user interface. As noted above, it's also a good thing to have if you're going to try to support multiple processors at once. Believe it or not, the Amiga also has an object-oriented API. This is remarkable because the concept and term 'object-oriented' have only fairly recently become fashionable in computer science. The Amiga designers were again ahead of their time (and ahead of everyone else). object-oriented design can help to keep the size of programs down, by allowing a lot of re -use of common code. If the OS itself is object-oriented then there's a lot of potential for making effective and efficient applications.

Finally, clarity and simplicity has always been the chief design goal of the AmigaOS. In the early days, memory was a very scarce resource so the AmigaOS was created to have a very small 'footprint' (ie; fit on a small ROM and a floppy disk) and to use very little RAM. This last requirement dictated the use of bit-plane graphics (rather than the byte-per-pixel, chunky systems that are so popular nowadays), and created the infamous HAM (Hold And Modify) graphics mode that produced very colourful pictures with only a tiny amount of memory. While the BeOS has not been designed to run from floppy, it is exceedingly small and applications are also amazingly un-bloated. Like the AmigaOS and its applications, this stems from having a clean, small, simple and efficient OS.

On the other hand, many people accuse Windows and MacOS of being overly complex, where feature upon feature have been bolted on in contrived and convoluted ways, resulting in layers and layers of 'software silt'. Add to this the constant need for backwards compatibility and it's easy to see how performance is being sucked away.

More features

The feature list continues when you look at the BeOS kernel:

- **Virtual memory**
- **Protected memory**
- **Client-server internal architecture**

The first two of these are features which the standard AmigaOS lacks (as described in the boxes). The last point is something that ordinary Amiga users may never notice. It's basically a way of handling system requests in a multitasking way, where a central server accepts messages from clients to carry out specific work. Of course, the AmigaOS does too: most importantly in the DOS (Disk Operating System) which handles all standard I/O requests, but also throughout device operations and even in its BOOPSI GUI system. The BeOS file system boasts:

- **64-bit**
- **Multithreaded**
- **Journalling**
- **Integrated attributes and indexing**
- **MIME-type file identification**
- **External (plug-in) file system**

SupportThe AmigaOS obviously works in a multithreaded way and it also supports' add-on file systems (like ISO9660 for CD-ROMs and MS-DOS for PC format disks). Any update to AmigaOS would need to support a 64-bit file system natively (like BeOS) for maximum performance on the current and future generations of enormous hard disks. The buzzwords for the graphics system include:

- **Multithreaded client-server architecture**
- **Direct access graphics**

Symmetric multiprocessing

Multiprocessing is the ability to use multiple CPUs at once. The 'symmetric' part of this means that the processors can be used interchangeably for running application threads. The BeOS makes use of this to shift threads from one processor to another, depending on the system load. This enables maximum use to be made of the CPUs, giving very high throughput, since the work is evened out across the processors as much as possible.

64-bit journalling file system

A 64-bit file system allows for files (and disks) that exceed the four gigabyte limit imposed by normal 32-bit file systems. 64-bits mean the limit is raised to about 18 terabytes (and that's equivalent to 4,000 million lots of four gigabyte hard disks). The 'journalling' aspect of the file system means that it keeps track of changes and always maintains a consistent state, even in the event of a power loss. Some recent data may be lost, but the possibility of corruption of the whole file system is drastically reduced. The flexible way the Amiga's DOS and file system were designed enables it to easily take advantage of such technical advances, although the Amiga's current FFS (Fast File System) is probably sufficiently robust for most users.

Antialiased fonts

A way of improving the appearance of text, especially at small sizes, but one that requires a suitably rich palette of colours to work with (or a 24-bit display). Basically, the edges of the characters are smoothed out using (for black-on-white text) levels of grey. This reduces the 'jaggedness' of sharp pixel boundaries, but obviously requires a bit more effort by the text renderer. PC users continue to be mystified by this, as Microsoft's antialiased font solution for Windows 95 is a total nightmare. They seem to have missed the point completely, as large characters end up extremely blurred and small characters are not affected!

MIME-type file identification

Every file is associated with a MIME (Multipurpose Internet Mail Extensions) type, such as "text/plain", "text/html", "image/gif" and "video/quicktime". This obviously ensures compatibility with Internet communications, but also enables the user to just double-click on a file and have its associated application launched directly. The standard AmigaOS uses icons to store application information for data files, although there are clever system patches which add a great deal of automatic file type recognition (such as DefIcons, from the NewIcons package).

Protected memory

A way of shielding the operating system and other programs from badly behaved programs. Each application has its own memory space that is kept separate from other applications. In this way, the only memory a program can corrupt is its own, so if it crashes it won't bring down the whole system. As you may well have experienced, this feature is sorely lacking from the current AmigaOS.

- **Extensive 2D library**
- **Antialiased fonts**
- **OpenGL**
- **Modular capabilities**

The Amiga scene has been very active in producing some kind of RTG (ReTargetable Graphics) system, although we're still waiting for the AmigaOS to support it officially. These modular capabilities may eventually lead to 3D cards being popular in Amigas, and OpenGL is fast looking like a suitable standard for 3D modelling (thanks mainly to the GL version of Quake on the PC!). The I/O system:

- **Multithreaded**
- **Modular dynamically loaded**

Nothing surprising here for Amiga fans. For example, the ". library" and ". device" are the Amiga's equivalent of dynamically loaded modules. Some miscellaneous other features:

- **TCP/IP native**
- **Inter-application messaging and scripting**
- **Format translation services**
- **Integrated unicode**
- **Posix compatibility**
- **Java runtime**
- **Bundled development system**
- **Complete technical documentation publicly available**

Internet capabilities are built-in to the BeOS through its integrated TCP/IP support. As the interest in the Internet continues to grow, the Amiga is (even at present) in a great position, offering a low cost and efficient solution, with a choice of un-bloated web browsers. However, projected developments in the web will require much increased performance. The next feature (inter-application messaging) is probably the key to the way the BeOS manages a responsive, multitasking system. And unremarkably that's just how the Amiga does it too. Underneath this you need an efficient kernel that handles all the task switching stuff, but the guts of the top-level view of the system is the message passing system. As in the AmigaOS, messages play a fundamental part of all aspects of the BeOS.

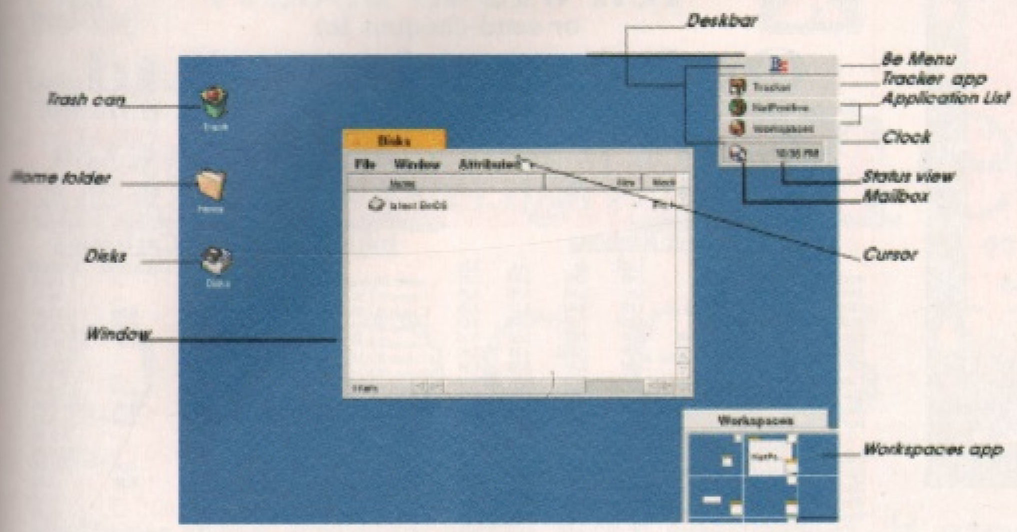
Inter-application scripting is, of course, the BeOS version of the Amiga's ARexx. However, whereas ARexx compatibility needs to be explicitly coded into an Amiga program, BeOS scripting is an extension of the standard messaging system and it's possible to script ordinary system messages to an application. For example, a script can fake window resize requests and button clicks, just as if the user had manipulated the GUI with the mouse. Format translation services are provided in the BeOS by something that until recently was known as the Datatypes system.

This lightweight method of converting data was directly inspired by the Amiga's Datatypes system, and it was developed by a third party. The fact that it is now an official part of the BeOS also shows how open Be are to its developers.

BeOS developers

From the start, Be has had the greatest respect for BeOS developers, and it has gone to great lengths to encourage, help and listen to them. Those elite early developers have actually been able to influence the design and functionality of BeOS. Given Be's background and the early focus on PowerMacs, it's not surprising that a lot of the BeOS GUI is distinctly Mac-like, but that's really where the Mac similarities end. The whole ethos of BeOS is much more Amiga-like, and a glance at the names of some BeOS developers might help explain this. The list of famous Amiga people also involved with the BeOS includes: Dave





Haynie, Fred Fish, Dr Peter Kittel, Chris Blackbourn, Joanne Dow and Christian Bauer. Maybe this is lesson number one for the future of AmigaOS. Amiga Inc. need to get lots of developers on board early and listen to what they say. Without software an OS is nothing. Be knew this at the start, and they're still looking for the elusive "tractor app" that will encourage ordinary users to investigate BeOS. AmigaOS used to have a wealth of unique applications, like Scala MM, the Video Toaster and Lightwave.

The years of neglect with no active owner has meant that it's falling back and has a long way to go to catch up. The BeOS is positioning itself as the OS for digital media (like video and graphics), something which used to be the preserve of the Amiga.

BeOS future

The future seems to be looking pretty bright for BeOS, as it has achieved something really significant in crossing the barrier between computer architectures (PowerPC to Intel). If it can maintain this cross-platform compatibility and start attracting users it could do much better than Be's conservative estimates of it as a niche OS.

Yes, Be's official line on the BeOS is that it's actually a companion to Windows, not a competitor. They cite Linux as an example of another niche OS (for networking, in Linux's case) that co-exists with Windows. At present this is a pretty realistic view, as they can't hope to compete with Windows in the office. The BeOS does not (yet) have applications like word processors and spreadsheets that will drag the huge majority of people away from their Word or Excel. And the BeOS has yet to attract some major players in the software market. Rumours have it that Adobe are considering porting some of their applications, but probably only when there's sufficient demand. It's the old chicken-and-egg situation that has also plagued the Amiga.

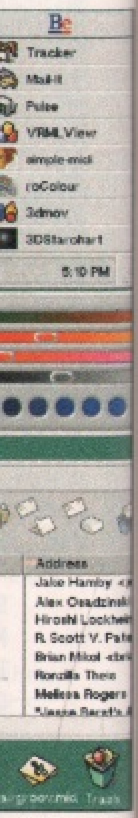
Lessons for AmigaOS

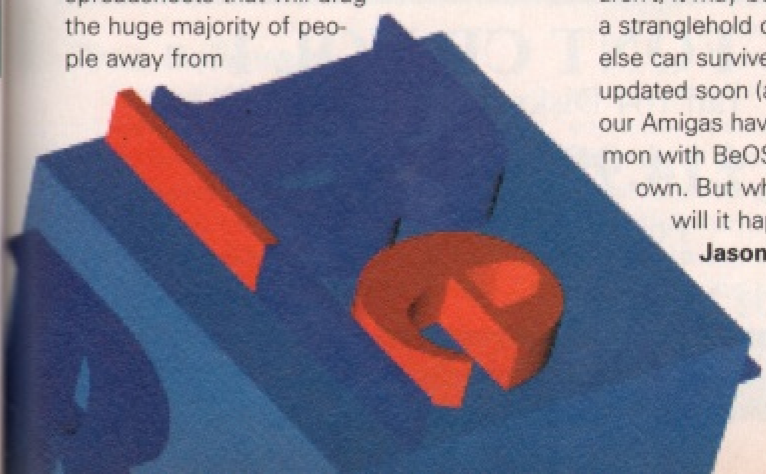
Any development of the AmigaOS could benefit greatly from examining the model that Be have created. Everything from the concentration on simplicity and clarity to the real involvement of developers and the open architecture are things that Be seem to have done right. A lot of these things are similar to the way the Amiga has evolved in the past, but there are also a number of things that Commodore obviously failed to do.



It remains to be seen if the people who are engineering, investing in and financing the BeOS are going to be successful. If they are, BeOS may eliminate a potential niche for the AmigaOS and make it harder for the Amiga to survive the future. And if they aren't, it may be because Windows has such a stranglehold on the market that nothing else can survive. But if the AmigaOS is updated soon (and properly) we may find our Amigas having more and more in common with BeOS, carving out a niche of their own. But what will that be, and when will it happen? ■

Jason Hulance





Unicode

The standard ASCII character set is fine for text in English. ISO Latin extensions give a lot of European accented and other characters, but does not cater for other scripts, such as Japanese and Hebrew. Unicode is the new standard (thanks to Java), and it allows for languages which include thousands of characters.

Pervasive multithreading

A thread is a sub-task of an application that can run in parallel. In Amiga terms, an application is a 'Process' and its threads are 'Tasks'. A simple example is a word processor application that can print documents 'in the background' while you continue to edit other documents (or the same one). The task of printing has been separated into a thread that is being run in parallel to the rest of the application. The BeOS makes heavy use of multithreading at all levels, hence the addition of the word 'pervasive'. For example, every BeOS window runs as a thread, separate from the main application process. This is one way the BeOS maintains a very responsive GUI.

Virtual memory

A mechanism for faking a lot of system memory. Physical memory (ie; the RAM chips in your computer) is an expensive and scarce resource, and in normal operation a lot of this memory is not being actively used. A virtual memory system makes use of this fact to fake memory using a hard disk. The system 'swaps out' the inactive parts of memory to disk, and swaps it back in when it's actually needed.
This is transparent to the running applications; it just appears to them that there's a huge amount of memory in the system (the total memory 'in use' can greatly exceed the amount of physical memory). The one downside of this is that if there are too many programs actively using a lot of memory, the virtual memory system can get really stressed, constantly swapping to and from disk.
This is known as 'thrashing' and the system can slowly grind to a halt, locked in disk activity. The only solution to this is to buy more physical memory or run programs that use less memory! Standard Amigas do not have a virtual memory system so programs compete for use of the physical RAM (the total memory 'in use' can never exceed the amount of physical memory). But, as ever, some enterprising Amiga programmers have created (with varying success) virtual memory systems for use on Amigas with a CPU that has an MMU (Memory Management Unit).



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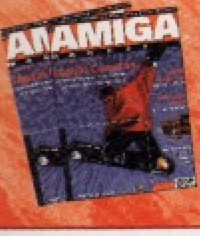
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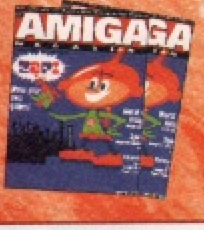
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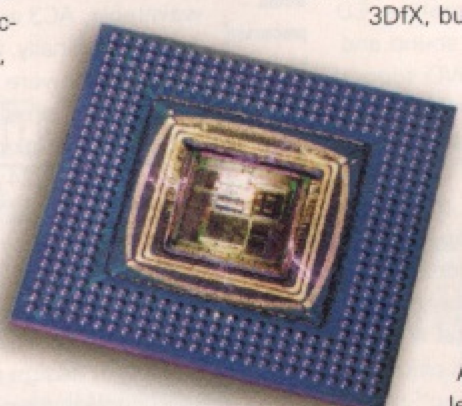
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Multimedia processors

When the Amiga was first released, it stood out because of the revolutionary nature of the custom chipset. If you thought that was a major leap in computer power, just wait until you see what custom chipsets are capable of doing fifteen years on.

One of the fiercest arguments amongst speculative Amiga owners is the custom chipset debate. Anyone on a mailing list, the Amiga news groups or in a user's group will be pretty familiar with the concept. One side claims that it is the custom chipsets of the Amiga that hold us back, that using off - the - shelf cards to do the job would be cheaper and far more future proof. The other side points out that it was the custom chipset that made the Amiga what it was, and if Amigas don't have a custom chipset, they don't have an edge to give people a reason to buy them instead of a PC. Realists say that the world has changed since the early days of the Amiga; they point out that there are now dozens of companies producing custom chipsets, and to produce something unique and better is simply not a practicality. If Intel have so far failed to conquer the graphics chip market, how could Amiga Inc?



True Believers

The 'true believer' claims that while off the shelf components can do many things far better than the Amiga custom chipsets, losing the things like video output capability is losing the things that make the Amiga what it is. As it happens, there is an answer that should suit both parties.

A significant part of the debate about custom chip sets is a matter of semantics. The term 'custom chipset' indicates a group of silicon chips which act along side the central processor unit, taking from it the burden of a particular function that it is custom designed to do.

It might also be assumed to indicate that the chipset is custom designed for the specific application, as the Amiga chipset was. But why should a chipset designed by the company that sells you your computer necessarily be any better than one supplied by a third party manufacturer? Many would say that when you add a Voodoo 3DfX card to a PC, you are giving it a custom 3D graphics chipset. So your PC might come from Dell and your graphics chips from 3DfX, but there is no doubt it is a custom chip.

Thus it might seem that the only sensible approach to modern computing would be to ensure that the OS is ready to cope with new hardware, and the Amiga can avoid being left behind again by using whatever new hardware gets developed. Standard PCI cards could be connected to an Amiga and will work happily with older software; the programmer writes to the operating system rather than the hardware, so it is only a matter of ensuring any new hardware is supported by the OS with a new driver. We already have this on the Amiga with retargettable screen modes; if a piece of software can open a CybergraphX screen, it will be able to open it on any graphic card that comes with CybergraphX software.

Chipset Revolution!

When the Amiga was new, the custom chips were revolutionary, but not unique. It was not long before similar or more powerful specifications were available for other platforms, although it took rather longer for the software on those systems to catch up. There was no doubt that from a programmer's viewpoint, the certainty of what you had to deal with hardware wise on an Amiga was a major point in its favour. Take a look at the situation with current games on the PC and you will see what I mean. Quake has had to be written in a dozen flavours to suit different graphics cards.

This is not because it would be impossible to produce a single 3D executable that would run on all graphics cards, you just use the Windows DirectX software interface. Rather, it was because id Software know that they are going to have to program each graphics chipset directly if they want to get the best possible performance out of it. A possible solution would be to specify a particular card as the one for Amiga, but you then have more problems with the upgrading issue.

Some people argue that the real strength of the custom chipset on the Amiga was that if everyone has the same hardware, you can program it directly for more power than you could

get addressing it through the OS. Certainly 'hitting the hardware' has enabled Amiga programmers to get a lot extra out of the machine, but this is a real killer when it comes to upgrading to another chipset. Software which hits one set of hardware will not work properly on another; this is the reason for an API, a programmer's interfaces, such as DirectX or OpenGL. So we are back to the harsh choice of high upgradabilty or high efficiency, but not both.

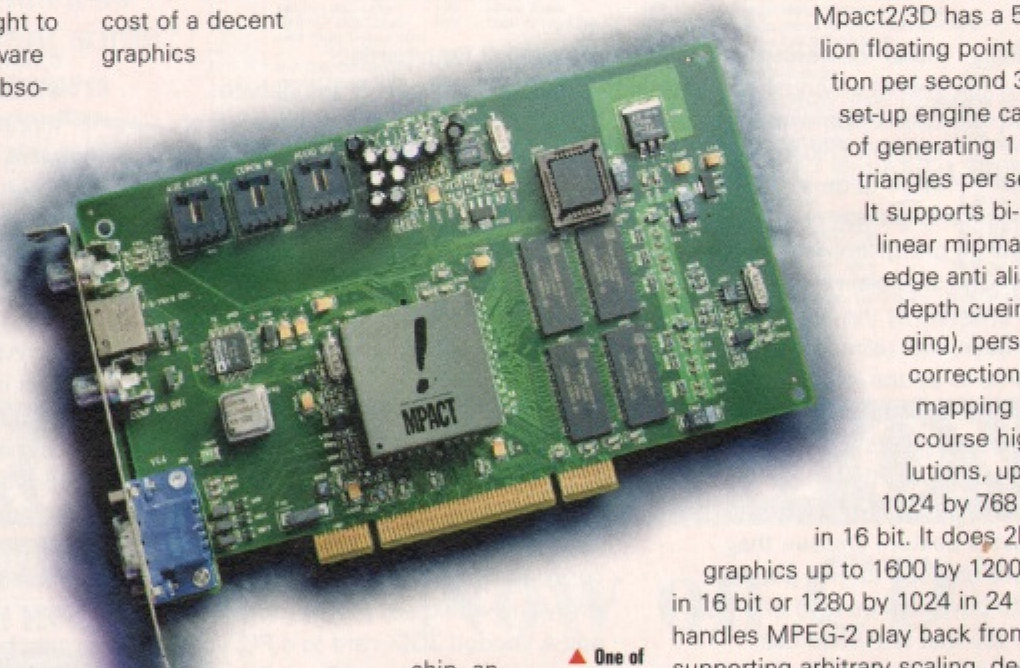
In an ideal world there would be a chipset which was cheap, compact and did the same kind of jobs that the Amiga's chipset does. It should be able to supply top line performance and at the same time be able to generate all those old video modes. Bringing the Amiga's multimedia powers into the late nineties, it ought to be able to offer hardware accelerations for common multimedia functions such as MPEG video decoding, and it ought to be possible to upgrade the hardware when those standards become obsolete and new ones come in. Ours is not an ideal world, but it does share with that ideal world exactly such chipsets, such as the Philips Trimedia or the Chromatic Research Mpact2/3D.

These chips work along rather different lines to the previous generation of chipsets. They are a type known as media processors, an advanced derivatives of the DSP. Those of you with long memories may remember that the Falcon, the follow up to the Atari ST, was fitted with a Digital Signal Processor (DSP) which could in theory allow it to do all sorts of amazing things. While the basic concept is the same, the poor DSP used by Atari never showed the potential of the concept, and the current generation are architecturally far more complex, consisting of a number of internally multitasking parallel DSP units.

Digital domain

The concept behind a digital signal processor is unsurprisingly that it processes a signal in the digital domain. DSPs speed up digital manipulation directly, allowing data to be heavily modified on the fly. As the hardware operation performed by the chip can be software programmeable, it can be used to do an enormous range of things. In the case of playing an MPEG video, the digital signal processor is programmed to apply the decoding routines to the data stream without taking up any of the central processing unit's time. If, in a year's time, a new video compression format is developed, it should be possible to write software for the multimedia chip which will allow the chip to decode that just as it is able to decode MPEG video now. You could say that it is a custom chipset that is future proof, because unlike something along the lines of AGA, if standards change, the chipset can be reprogrammed to have more up to date functions.

In the case of the Mpact 2/3D, you buy a chip which, on its own, does nothing. The functionality of the chip is chosen a la carte by buying the appropriate software modules from Chromatic Research. It can simultaneously process video, audio, graphics and telephony information. To give you some idea of the kind of power this offers, for little more than the cost of a decent graphics chip, an Amiga fitted with an Mpact2/3D would have: top of the line 2D and 3D graphics, CD quality audio with surround sound and multi – channel capability, DVD support with full screen video play-back, a software 56k fax/modem and video output ready for the advent of high definition television. Most intriguingly, the programmable nature of the chip means it should be possible to produce a software model for the processor to apply to video signals to give it total AGA video out capability. Yes, this chip could be just as happy running Scala as running GLQuake.



▲ One of the current crop of Media processor cards, the Mpact2/3D.

Both the Mpact 2/3D and the Trimedia are available for around $50 a piece in quantity. In terms of the options this gives for a low cost computer, the implications are enormous. You could put together a case containing a CPU, some memory, a hard drive and a DVD-ROM drive. Put one of these multimedia processors on the PCI bus, and you have all the controller hardware you need. The specification would be that of a high end PC, but could offer backwards compatabilty and a very low price point. Without the complexity of all those different cards, the construction of the computer would be much simpler and the operating system would have a far easier task. I am sure anyone who has ever struggled with those lovely IRQ conflicts you get with Windows is drooling at the prospect already. An Amiga built this way could cost around £600. Factor in inflation, and you are looking at A500 prices.

The specs

In case you think that a price like that must mean the hardware would be inferior, let me just give you some idea of just how powerful the Mpact2/3D really is.The Mpact2/3D has a 500 million floating point operation per second 3D set-up engine capable of generating 1 million triangles per second. It supports bi- and trilinear mipmapping, edge anti aliasing, depth cueing (fogging), perspective correction texture mapping and of course high resolutions, up to 1024 by 768 pixels in 16 bit. It does 2D graphics up to 1600 by 1200 pixels in 16 bit or 1280 by 1024 in 24 bit. It handles MPEG-2 play back from DVD, supporting arbitrary scaling, de-interlacing and 30 fps at full PAL screen size. Audio includes software wavetable, AC3 and surround sound decoding. Finally, for telephony, it allows a software modem to be written, offering simultaneous voice and data with 56k fax/modem performance, and H324 video phone protocol.

One major way in which this kind of chip differs from the old Amiga custom chipset is that it is all done in one slab of silicon. VLIW (very long instruction word) design allows a single instruction to be pipelined to separate units on the chip. Performance peaks at an impressive 6 billion operations per second, and a very fast (Rambus) memory access helps it all keep up.

Unfortunately, for all the programmeability, there is a limit to the bandwidth of data the processor is capable of dealing with in any given amount of time, and as a result the hardware

specs will start to look primitive. Certainly the overall performance in every aspect can be bettered today, if not at anything like such a low price. That £600 Amiga would, however, offer a stable system to make life that much easier for the Amiga developer, and give access to these high end specifications people crave.

Changing world

Nothing stays the same, and if we moved wholesale and rigidly over to the Mpact, Trimedia or similar, we would only have a few year's lifespan to play with before the hardware started to look silly. Already 3D chips such as the nVidia TNT are being developed which the Mpact could not hope to compete with. Promised figures include an amazing 250 million instructions per second.



While Mpact could do the perfect job for a quick but clean and cheap solution which would make the Amiga do an awful lot more "out of the box", it would be left behind in many areas. Certainly a voodoo3 or an Nvidia TNT offer notably higher power, so why not plug that in too? With a clean rewrite of the Amiga OS, we are likely to see the API become more important to the programmer than the hardware. With object oriented code, the API could be upgraded to address hardware plug ins as they are introduced. If the media processer starts to fall behind the opposition, certain functions could be retargetted to another piece of hardware, say an nvidia TNT card connected to an AGP bus, for example.

Media processors have massive advantages over traditional hardware in terms of cost to manufacture, and we are likely to see the technology become more widespread and replace a lot of single purpose chips. A very interesting development that appears to be coming out of exactly this field is the games industry's most famous secret, Project X from VMLabs. No-one is entirely sure what Project X is, but the smart money is that it is a multimedia processor along the lines of the Mpact but with a lot more emphasis on a number crunching core. The first few hints of Project X came from famous hippy computer games programmer Jeff Minter of Llamasoft, famous for such titles as Attack of the Mutant Camels, Ancipital and Tempest 2000. Jeff Minter was brought into the project to show off what the hardware can do, and has been enthusing about the unbelievable graphic trickery on his website. Visitors to his "yak zoo" web page read that he was he was getting amazing tricks out of some new hardware he could tell no-one about. A similar line was taken by VMLabs until very recently, when more and more information has been allowed out. The full details will be released just before this issue hits the news stands at the E3 electronic entertainment show in Atlanta. A particular strength of the project X hardware is that it is an effective and powerful DVD contoller, something that media processors have been squarely aimed at. DVD is quite a step up technologically from CD, and far more computing power is needed to run it.

Stealth console?

Several DVD manufacturers have agreed to use Project X in their DVD players, and VM labs intend on using this as a way of slipping their core games console hardware into peoples homes under the noses of Sony and Nintendo. Just imagine, the next CD player you buy might have a rather powerful computer in it too.

There are further projects in this area, many of them highly secretive. Motorola appear to be working in this direction with Hellcat and the Blackbird set top box (occasionally rumoured to be connected to Project X), Chromatic research have a next generation Mpact processor in the works which is said to be scarily powerful, Nintendo are supposed to be working on similar hardware for their next games console, the bizarrely named Bitboys Oy are releasing the Glaze3D microcore media processor next year, capable of 400 million pixel/second 3D graphics, and there is even rumours that a major player in Holywood has been getting involved in the industry because they need vastly more powerful hardware out there to produce their next generation entertainment products on. Media processors are a technology the industry is slowly getting to terms with, and one you are likely to hear a lot more about over the coming years.■

Andrew Korn



Please Release Me...

Taking the plunge into publishing one's own software is becoming an increasingly popular route for Amiga developers, but what's the best way to go about it?

Amiga users are the most creative bunch of computer enthusiasts on the face of the Earth. There's something about an Amiga which challenges anyone who uses it to make something. It could be a picture, an animation, some music, a game, a utility, an application, a magazine... the options are endless. However, once you've completed your creation then comes the question of how to share it with the rest of the Amiga world.

How you go about distributing (publishing) your creation will probably depend on what it is, how long it has taken you to make, how big it is and vitally, whether or not you want to give it away for free or sell it. You might be thinking at this point that we're just talking about a straight choice between releasing a game or utility as PD, shareware or a full commercial product. That could be the case if we concentrated purely on games and utilities, but there are so many other things you could feasibly create and sell, for example:

- Applications
- Games
- Small utilities
- Music CDs
- Videos
- Collections (fonts, pics, samples, anim clips...)

all of which come under the 'software' banner, and all of which could be created with your Amiga.

The reality

We won't kid you that you can make easy money or become a millionairre off the back of your Amiga creations. In fact, earning a living from publishing Amiga software is quite a feat. Even so, that doesn't mean it's not worthwhile trying, or at least doing it as a semi-pro thing.

One other thing that's worth clearing up is the difference between publishing, distributing and retailing. Publishing is the process of making multiple copies of your product. The distributor is the middle bit between the publisher and the retailer. Retail is the final act of selling on the product to the public. You could choose to stop your involvement after the intial development stage, letting someone else handle the publishing and all the rest of it, but for the sake of this article we'll assume you want to keep control of at least the publishing. With that in mind, you could then choose, or be forced, to take charge of the distribution and maybe the retail, depending on whether or not there is anyone willing to handle that for you.

In the current climate, those various roles are often handled by the same person or company. While middle men can make things easier, they inevitably reduce profits and increase costs. That's OK if you have a big enough market to sell to, but with things as they are in most cases it pays to remove as many middle men as possible. Let's take a look at what's involved in each part of the process.

Advertising costs

This isn't a cheap scam to attract new advertisers to CU Amiga – just a guide to give you an idea of how much it costs to place your own adverts.

CU Amiga advertising rates	
Double page spread	£3940
Full page	£2080
Half page	£1080
Quarter page	£565
Eighth page	£295
Classified per 6cm	£53

Duplication

Assuming you have a product (which may be your own creation or that of a third party) the first step is to publish it. This means duplicating, documenting and packaging your product.

The duplication method you use depends on the media (floppy disk, CD, video tape etc) and also the amount of units you expect to shift. The safest way (financially) is to handle the duplication yourself at first. That way you have a minimal initial outlay and then if demand picks up sufficiently you can pay for a duplicator to supply larger quantities from your master. Doing it yourself can be a tiresome process.

It could be worth considering a small run of hand-duplicated pre-production copies for press and distributors to generate interest and then jump straight to full automated duplication, although that is quite a gamble for one person to take alone. In that case it would probably best to try to get a distribu-

Digital publishing

Of course, the cheapest and safest way of publishing your software is via the Internet, so long as your product can be converted to a downloadable amount of digital information.
With shareware there's no requirement to advertise in the printed media and no need to do any duplication, packaging or pay any visits to the post office. You could release your software via Aminet in a semi-disabled form, and in exchange for a registration payment, email a 'key file' to the customer which will invoke the enable the ghosted features.



tion deal which included duplication to reduce the financial risk at your end.

Packaging

Generally packaging would be a very important part of the publishing process – good packaging can make a big difference when a product it sat on a shop shelf among lots of others. However, unless you have a high street distrubution deal sorted out, it might be a good idea to think carefully about alternative methods of packaging.

First of all you could look on the bright side: if you don't have to fight for attention on a high street store shelf, you can afford to have a smaller box or maybe even no box at all. While some people like to have their software boxes neatly lined up at home, for many the box serves no purpose for floppy disk based software. Once installed on a hard drive, the original disks will be filed away in a more convenient place.

For example, Vulcan Software's mail order floppy disk releases came in smart, attractive boxes that were tailored to fit the disks exactly. Many of the Amiga's best commercial applications come without a box, often making do with just a flat disk wallet which is more practical than having a bunch of disks rattling around in a box as they're tossed about by the postal service.

For other media such as CD and VHS video tape the standard basic packaging does actually serve a purpose and thankfully is far more compact. Attractive packaging can be important to make a good impression on the user, who may be willing to upgrade or buy a future product if he/she thinks your company is a professional outfit.

Manuals and docs

This is another area which varies a lot depending on what it is that you're publishing. A music CD or a data resource CD-ROM can have its inlay cover produced quite

Copyright concerns

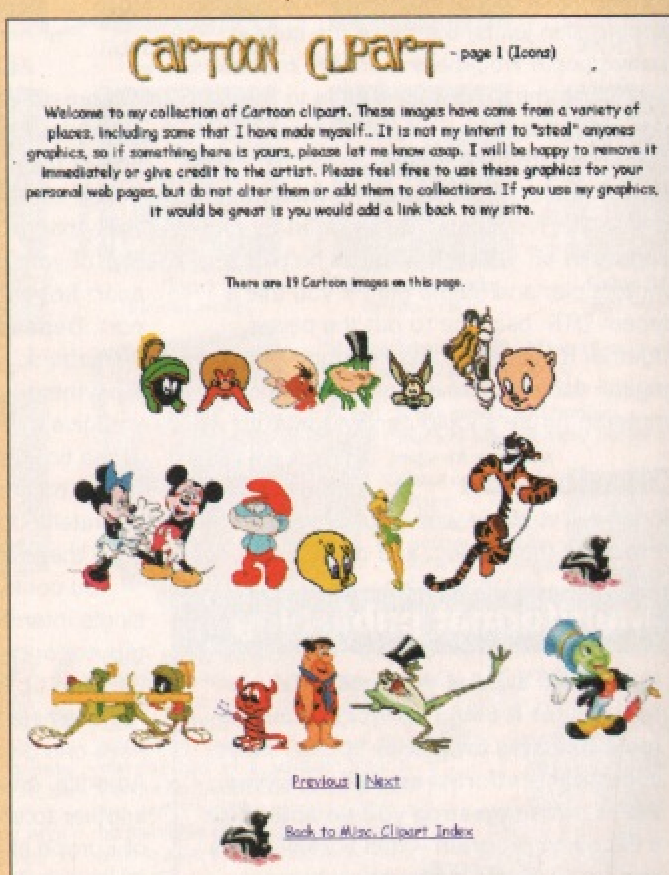
When faced with a copyright law suit it's not good enough to plead ignorance. It's up to you to make sure you know all about the relevant copyright issues before you release your product, even if you are not asking any money for it.

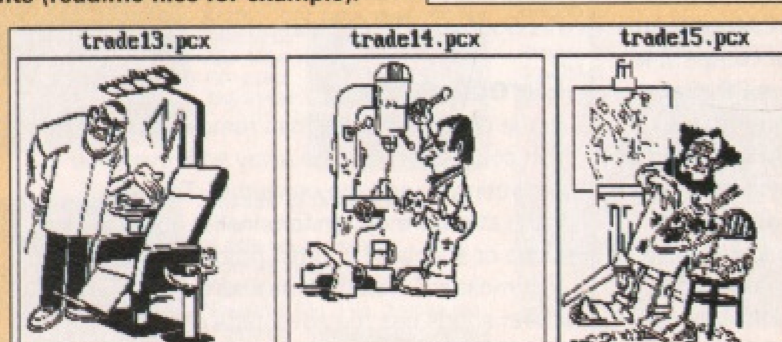
First of all, assuming you haven't infringed anyone else's copyright, the product is legally yours the moment you create it. There's no need to apply to any central body for a certificate or any other proof or register of ownership. However, as evidence of your ownership/creation of the product it's a good idea to send yourself a copy through registered mail and keep it safe without opening it. Do this before you give it to anyone else. This will show that you had the product at the delivery date, which will inevitably be prior to any date that anyone else could prove ownership of it – hence it must be yours.

However, before you get to that stage, you must make sure that your product is not itself infringing the copyrights of others. With the mass of 'freely distributable' software available today, it's easy to come unstuck with the use of something you mistakenly assumed you could legally include in your own creation. For example, if you wrote a graphics application that came with a GIF loader and saver derived from the Compuserve GIF compression/decompression algorithm, you would be liable to pay a license fee to Compuserve.

One of the most common mistakes to make is to think 'I got this from a web site, so it must be OK to use in my own production'. The fact that something is available from a web site does not automatically mean that the website creator owns the data. Even if the data is the property of the website creator, that doesn't mean that it's being given away free to be used at will. If you fail to pay attention to copyright matters you could find yourself owing a large percentage of money earned from sales to a third party, or even worse, have the release of your product blocked all together. Even if you release some totally free software which infringes copyright you'll end up in trouble if found out – technically that's piracy.

Clearing copyrighted material is a matter of gaining permission from the copyright owner. In many cases permission is granted in accompanying documents (read.me files for example). If not, it's up to you to contact the owner and sort it out.





▲ **This is the wrong way to go about sourcing images for use in your productions.**
◀ **Instead get your hands on some copyright free images and sounds, like these from Mick Davis, or make sure you generate everything yourself.**

cheaply with an Amiga, a printer and some graphics or DTP software. A high street print shop would be a viable option for larger runs without breaking the bank.

On the other hand, if your masterpiece is a big application or a complex game, you'll probably find yourself with two options: supply all the documentation on disk in plain text, AmigaGuide or HTML format, or else bite the bullet and print proper bound manuals.



Obviously the first choice is favourite if your budget's tighter than a pair of Rod Stewart's leopard skin jeans, but given the choice many people would say a printed manual is well worth the extra cost it adds to the retail price. Whether or not that's the case when they vote with their wallets is another matter. As with the duplication stage, when it comes to manuals it's a good idea to start by running them off yourself with the help of a photocopier and staple gun. If you use a decent DTP package to put the pages together it should be easy enough to use the original document to supply a professional printer in future should demand pick up.

Distribution

So far you've done well. You've sourced or developed the product and done all the donkey work to turn it into a proper consumer-ready package. You've now got a choice to make: either grant a distribution licence to a third party and dump your entire stock on them, or carry on with the DIY theme.

Palming off the distribution to a more established company can be an easy and cost effective solution (you could try contacting any of the bigger advertisers in CU Amiga for a start). If you got a good deal with the right company you could see your product advertised in the press, which with any luck would stimulate sales (as would editorial press coverage – send CU Amiga and other magazines review copies).

The distributor would typically sell on your product to retailers and also retail it themself (there's an example of that combination of roles we mentioned earlier). All going well, that should be the end of your involvement, apart from technical support. Depending on the deal struck, you might get a payment for each unit you give to the distributor at the time of exchange, or you might get a cut of the retail price for each copy that's sold.

You could appoint a single international distributor or divide the distribution up by territory. For example you might have one distributor for America, one for the UK, another to cover the rest of Europe and maybe one to service Australia and the Southern Hemisphere.

Multiformat publishing

In order to expand your potential customer base it could be worth considering publishing for (shock horror) other computer platforms as well as Amiga. We're not suggesting you go and write a PC paint program – this is really only applicable if you are putting together a collection of clipart, sound samples or some other cross-platform compatible data. If you were to make a CD that was compatible with PC and Mac as well as Amiga (with careful selection of file types and the CD filesystem) you could then have the satisfaction of knowing that PC and Mac users were actually helping to fund your Amiga development – something that has quite an appealing ring to it!

Direct selling

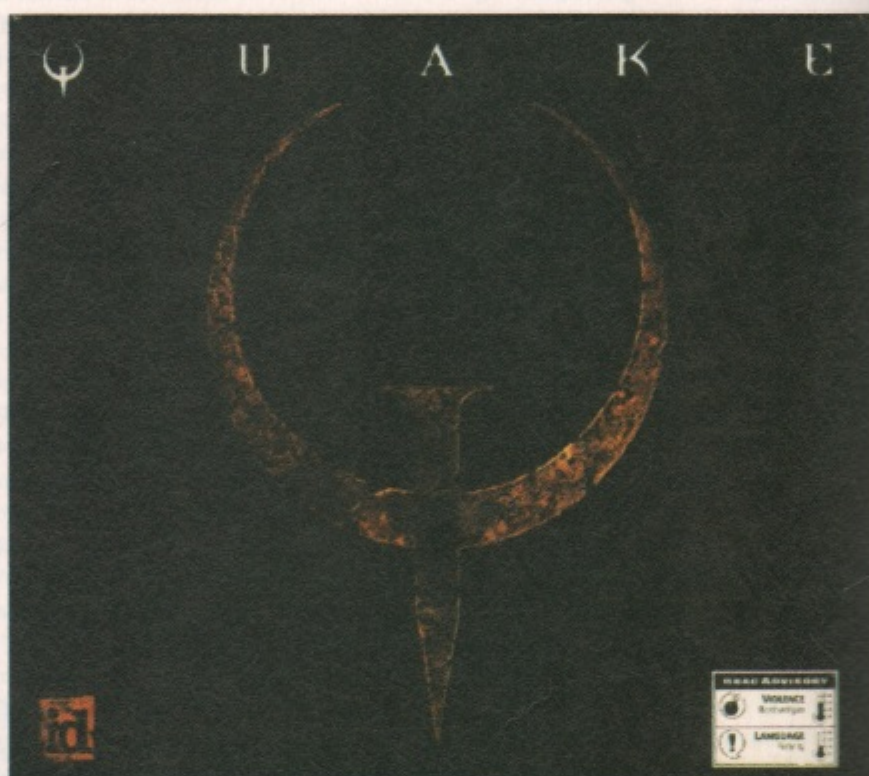
In the ultimate middle man removal scenario, you could choose to do away with everyone between you and the consumer. This is a more attractive option for smaller outfits with niche or specialist interest products. The fact that most software isn't available from high street shops has the advantage of granting you a more level playing field with the competition, in that you can place adverts in the Amiga press just like the bigger companies do. See the panel for an idea of advertising rates in CU Amiga.

Left: Turbo Print is a typical example of how costs are being minimised on packaging, coming in a quite sufficient plastic wallet and a printed manual.

Below: Quake does away with the big cardboard box in favour of a very compact and more cost-effective CD sleeve.

There are advantages and disadvantages to direct selling. On the upside, you'll know exactly how many copies of your product you sell. We're not implying that a distributor would lie to you (saying they had only 20 copies when they had sold 50) but it does make it easier to keep tabs on how well your product is doing. Also, you won't have to wait around for payment by middle men. You'll be able to offer a more personal service and you're likely to get more direct feedback from your customers which can help in the development of updates or future products.

On the other hand, it will mean more work for you. One of the most obvious tasks you'll have to perform is actually posting out the product whenever you get an order. That might not sound like much of a challenge but it may not be convenient for you to make a trip to your nearest post office on a frequent basis. If you are lucky enough to get a major response you could find yourself snowed under with orders and unable to process them all (although that's unlikely unless you really do have something very special). Depending on your finances, you may not be able to give your product the exposure it needs to fulfill its sales potential.



Good luck

That's about your lot for now. Remember, it's been the new developers and publishers complimenting the loyal established companies that have helped keep the Amiga alive over these lean years. Without your support it wouldn't be going today, and it doesn't get the support it needs in future it won't be here tomorrow. Now that we actually have some kind of a future, let's make the most of it. Happy publishing. ■

Tony Horgan

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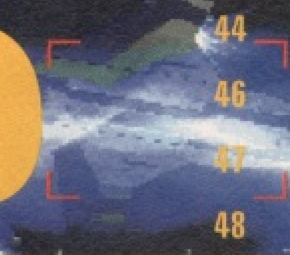
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Screen Scene

Every now and then a game engine appears that is a long way from being a finished game, but lets you see enough to know you are going to be keeping a very close eye on progress. Lambda and Enforcer fall right into this category.





▲ The latest screenshots of Lambda – looking good!

Unreal Game Engines!

The core part of a game, the code which makes it generate images on a screen, is called the game engine. When you see Speedball 2 moving sprites around a scrolling arena, you are seeing the game engine in actiion. Likewise, when you see Quake rendering 3D scenes, you are seeing the engine in action. It has nothing to do with content, nothing to do with action, and nothing to do with playability, but it is nevertheless an integral part of any game.

The engine is what you see in action; underlying code determines what the game engine does, how it reacts to the players action and so on, but it is the game engine that makes a game appear attractive or not, and it is the game engine that most betrays a lack of attention to detail. If your racing game looks really good you have the engine half way there, but if the slightest bump knocks your car into a spin, you've got the tweaks wrong.

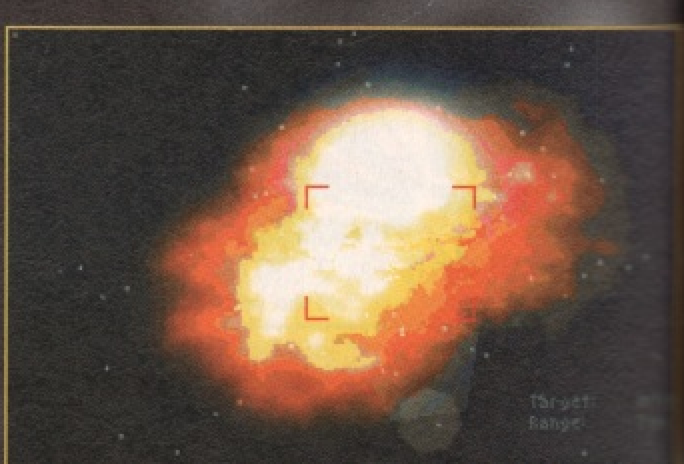
When we first saw Genetic Species well over a year ago, it was just an engine. You could run around but not a whole lot else. It impressed us with how fast it ran, but there was clearly much work to do. Definitely one to watch, though. Every time we saw a new version, the engine looked better and better, with angled walls being put in, better textures implemented, awesome lighting routines added. Movement was smooth, it looked gorgeous, there were no obvious flaws. Now we get to see if the gameplay is all there, but the excitement surrounding Genetic Species stems from the performance of that engine.

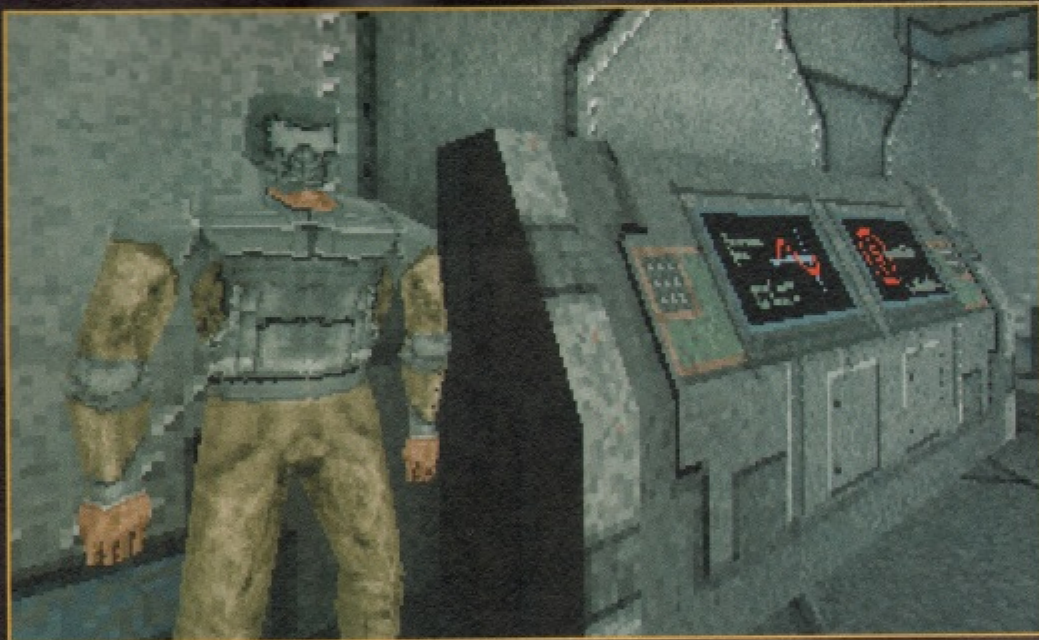
Now there are two new game engines doing the rounds which are producing a Genetic Species like buzz.

Lambda

Lambda is a space combat game along the lines of Wing Commander – more action oriented than The World Foundry's Explorer 2260. Real Top Gun in space stuff, a cosmic flight sim/shoot 'em up style of game. All the demo does is allow you to fly your spacehip around and shoot your guns at a couple of unmoving, intangible spaceships which hang around near you. That in itself does not sound exciting; what is exciting is how good it looks. Cast your eyes on the screenshot – shading, complex texture maps, dynamic lighting... and it all runs at a very nice pace. Give it an 060 and you get up to 30 frames per second, while even on an '030/50 it runs very nicely.

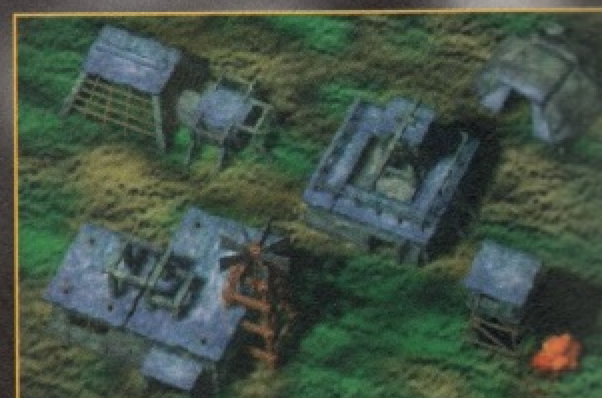
Lambda seriously impresses everyone who has seen it, which made it all the more surprising when the author started polling opinion on whether it should support FPU! With





Do you think he has trouble fitting through doorways?





Caveman Species, – something like a cross between Dune 2 and Civ. Nice one, Vulcan.

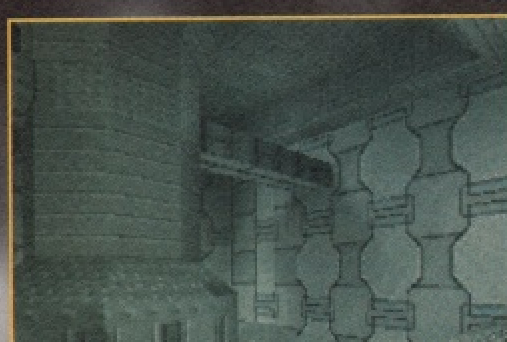
256 colour, plenty of polygons, Lambert and Gouraud shaded objects, glows, fogs and transparency, the engine is pretty advanced already, and getting better all the time.

The author, Mikko Kallinen of Finland, has programmed the engine so far on a pretty basic Amiga, and came very close to abandoning the project out of desperation a few months ago. A flood of email support kept him on track, and several people offered their services to help out. Lambda now has a couple of guys working on the graphics, Joe Fox and Dante Mendes, and a website at http://www.illuvatar.demon.co.uk. It does not yet have a publisher, financial backing or hardware necessary for things like PPC support. I suspect the lack of publisher is not a problem they will suffer too much longer though!

Enforcer

Enforcer came pretty much out of the blue. Developed by Czech team Insanity, the first we heard about this was a website with some very interesting screenshots, followed very quickly by a playable engine demo.

Enforcer looks very like Quake from the screenshots, although there are certain differences. Enforcer is not a true 3D game in that you cannot look at any angle, although the perspective kludging it uses is of a very high order. You can fly up and down, and the up/down axis perspective shifting moves as fast as the left/right perspective shifting in normal rotational motion. If you try changing your height in Trapped 2, you will see that the up/down axis moves much more slowly, as does it in the modified Doom engine in DoomAttack.



Enforcer – looking great, but lets have some more colour, guys!

Like Quake, there are true polygon objects in the 3D space. You can find a very nice looking human in the demo, somewhat along the lines of a grunt from Quake. He doesn't walk around and fire at you yet, but you can walk around him and take a look at the detail, and he looks from side to side just to prove he is animated. According to the documentation, the engine supports 300 polygon characters.

The engine in its currrent state has some very impressive points and some slightly disappointing ones. The dynamic lighting doesn't really come into play in the demo, but they have included some as a little demonstration. It has a long way to go before it matches Genetic Species. On the other hand the sky is a double layered semi tranparent beast that looks much nicer than the skies in Quake, and you can see what appear to be distant birds wheeling around in the sky, in and out of the cloud layers.

The textures are smoothly mapped, but at the moment a little dull. There is a strong emphasis on grey which makes the demo a bit less eye catching than it might, but it quickly looks eye catching enough when you see it move. In the current demo there is support for 320 by 240 and 640 by 480 resolutions in 256 colours, and both look very crisp. More importantly, they move fast, too.

On an 060 card we were getting 15-23 fps in the low resolution, and a not quite playable 5-6 with high, and this is in AGA mode. Although there is a CybergraphX mode, we couldn't get it to work. However Cybergraphics, PPC and even CyberGL support is promised. Apparently Virge 3D acceleration is already partly working (Amiga descent showed that feeble as it is, some hardware 3D is better than none), and Insanity hope to support the more powerful 3D cards as they become available. This is another game that isn't signed up, so if you happen to be a software publisher (or just curious) make your way to: http://www.intentia.cz/~insanity.

Other news...

Just in case you thought that Vulcan were losing interest, they announced that they have signed another game, the tasty looking Caveman Species. No, this isn't the prequel to Genetic of that ilk, it is a top down realtime wargame/strategy in the Command and Conquer mould, but with a neolithic setting that gives it a hint of Ages of Empire. Not too many details yet, but there is a screenshot to keep you interested.

Amiga Games Database

Amiga Games afficionado Angus Manwaring has put together a database of mini reviews of classic Amiga titles. Reviews have been gathered from far and wide, including some celebrity entries from the likes of David Braben, author of Elite, and Paul Burkey, author of Foundation. Check out the first release of the Amiga Games Database on this month's CD, and if you like what you see, why not contribute to the second edition? ■

Andrew Korn



Founding Worlds – Explorer 2260 diary

If you haven't heard much about heard about Explorer 2260, a game currently in development by The World Foundry and aimed at high end Amiga users, you will soon. We asked the team behind the game to tell us all.

Explorer 2260 is a huge space adventure game in the same genre as Frontier or Privateer, but with features and scope barely touched by its fellows. Behind the advanced graphics and sound is the Dynamic Universe Model, a system which creates a shifting game universe where borders change in interstellar wars, planets can be ravaged by disease or grow rich and powerful through trade or conquest. All this promises to bring about a game in which you can never be really sure what will happen next.

Thanks to CU Amiga we have the opportunity, in this development diary, to give you a sample of the beginnings of Explorer2260 and an insight into the game as it progresses towards completion.

Explorer 2260 itself began life shortly after the release of Frontier, David Braben's sequel to his game Elite. Chris quickly became frustrated by the static and repetitive nature of the game, so inspired to do better, he devised the basis of Explorer 2260. Initially the concept was to create a game much like Frontier with more scope, but this changed over time into a game which, Chris believes, is a more realistic view of the future. Rather than the sleek, clean look presented by many similar games, and indeed Science fiction books, films and TV shows, the emphasis in Explorer 2260 is on utility rather than aesthetics. The history of humanity and the alien races up to the "present day" is not a glorious progression into space, but rather a struggle against the odds to explore and expand beyond the confines of their worlds, often punctuated with war and strife.

Development of the game universe is still on-going and, thanks to the dynamic universe, it will continue to change as the game is played. The dynamic universe also provides the extra level of detail that Frontier lacked – the player can actually interact with the universe and change the progression of events. This, along with the extra freedom provided further aspects to be discussed in later diaries, should take Explorer 2260 far beyond games that have gone before it.

▼ **The excellent pics that decorate this page are Rob Asumendi's renders of just some of the ships you will meet in Explorer 2260.**

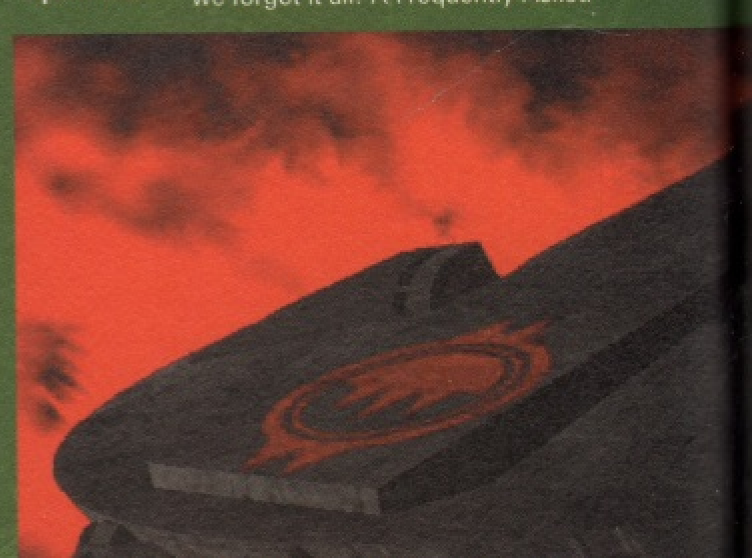
In the beginning

It's not often that a single mail can change your life, but that's what happened to Chris when he posted a mail about the game he had started work on to the Pure Amiga mailing list in October of '96. The response was immediate, and very enthusiastic. Ed Collins was one of the first to reply, in a private mail offering help with graphics. Eventually he became a member of The World Foundry.

Many of the other people who offered their services joined the E2260 External Development Team and have been very beneficial to the game development. The initial mails caused such a reaction of the Pure Amiga mailing list that, with help from Fred Fish, a separate mailing list had to be set up to cope. Averaging 100 mails per week (and sometimes that many in a day), discussion has included a wide range of topics from alien races, the physics of the game, ship shields, weapons, hyperspace and jump gate technology, along with game specific technicalities such as controls. In short, the mailing list has allowed us to find out what the games players want and design has never excluded playability from the equation. Our top priority remains gameplay, not creating a stunning game that plays terribly.

With the active mailing list, conceptual work progressed so rapidly on Explorer that all the great ideas, rules, and background needed a place to stay.

Fortunately, Chris came up with the idea of the Collins Encyclopedia Galactica before we forgot it all! A Frequently Asked



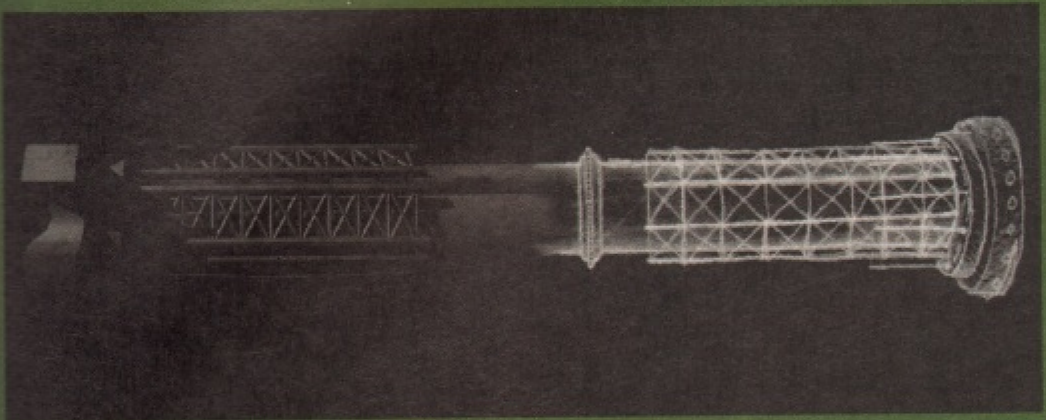
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▲ From design to render – building ships the World Foundry way.

Questions document and all the details of new alien races, ship designs, and sci-fi technology could now be collated in this all in one game "bible". This also provided a way for the External Developers to coordinate work and brainstorm more races and ships.

Started in June '97, the encyclopedia has grown to over 80 pages long and expands with updates usually done weekly, sometimes several times in a week. The latest version of the encyclopedia can be found on the CUCD and the very latest version can always be viewed online at http://www.explorer2260.home.ml.org/

Live long and prosper

Before long, we got in contact with George Hornmoen, whose developments included the Command and Conquer style game Maim & Mangle. We decided to work together, since sharing code and ideas would benefit both of us. To this end we created The World Foundry. The aim of which is to create high quality, high specification games that really showed off what is possible on an Amiga and would stand up very well against the latest PC/PS/N64 games.

We soon realised that we needed the backing of a publisher to give us the support we needed for a title of this scale. Several publishers were consulted (and some even approached us). A variety of factors decided it for us – we wanted the publisher who would be best for the games and these included software distribution, good developer support and Amiga market experience. We came to the decision that Vulcan Software would be the best publisher to choose as they were very willing to back us all the way with our aim of high quality titles. Most importantly, they were willing to back us in our somewhat risky next step...

Continued next month.



The World Foundry.

The World Foundry consists of a group of games developers who's office is the internet. Based around the world, they are dedicated to making shared world games with a emphasis on depth and realism. World Foundry are as follows:

Chris Page is 21 and just finishing his last year at Manchester universtiy (job offers welcome). He is responsible for the creation and design of Explorer 2260 and coordinates the team of people working on it. He is the lead coder of the whole project and also works on graphics, 2D and 3D, and sound.

Ed Collins is 23 and has been working with the E2260 dev team since November '96 His fulltime employment is doing Year 2000 code work and is the organiser of the encyclopedia. He is a bit of an all-rounder, helping out with many parts of the game development; from graphics, the encyclopedia and coding. He also handles publicity for The World Foundry (well he tells as many people as possible about the game, anyway).

Rob Asumendi first saw a note on the Amiga Web Directory about a new space simulation (without copy protection) in early '97. Some tricky HTML convinced him that a render of the Explorer Class ship was in fact an ingame screenshot, and he immediately joined the mailing list. He's currently a student at the Illinois Math and Science Academy in Aurora, U.S.A. His tasks to date have included modelling spaceships, planets, and aliens, as well as producing the intro movie.

External developers: The World Foundry team also has a number of external developers who help out with a lot of background for the encyclopedia, ship designs, GFX, Music and coding advice.

Feature list

Explorer2260 is the future. It combines the elements of space simulations which have gone before it, ranging from Elite, Frontier through Privateer and beyond, and adds more strategy, experiences and options set in a universe which changes around the player as the game progresses.

The Dynamic Universe Model:
It is a full dynamic universe where borders change, wars are won and lost, races rise and fall. Much more exciting game results.

StarNET:
This is the game internet browser where the websites in the E2260 universe can be viewed. It is used to find the latest galaxy news, apply for job, advertise for crew, etc.

Hyperspace:
Hyperspace is usd to travel the massive distances between stars, but here even battles can be fought. Hyperspace is a dangerous place with punishing energy drains, gravity wells, vicious hyperspace storms..... and something else is out there too.

Stations:
The player will have a large selection of actions available via a 3D representation of the station giving access to shops, accommodation, security services, StarNET links and many other options.

Fleets:
Explorer2260 has a special clause in it's ship intelligence routines which will allow ships to form into coordinated fleets allowing large attack forces, or convoys and escorts or pirate bands.

Music:
The music in explorer will utilise surround sound mixing techniques to produce high quality music. AHI support to provide better quality sound than the standard audio.device as well as giving support for soundboards and future enhancement of the Amiga audio.

The 3D engine:
Fully texturemapped, lightsourced and shaded the engine will include features such as fog and lense flares. The PPC version will be able to include a virtual cockpit and other features that fully utilise it's speed as well as support for future GFX cards.

Network Support:
Full TCP multiplayer capabilities into Explorer so many players with internet connections can link up and play against others.

Racing Game Round-up

Jason Compton attempts to burn some rubber... but does the experience just turn out to be the pits?

Virtual Karting 2

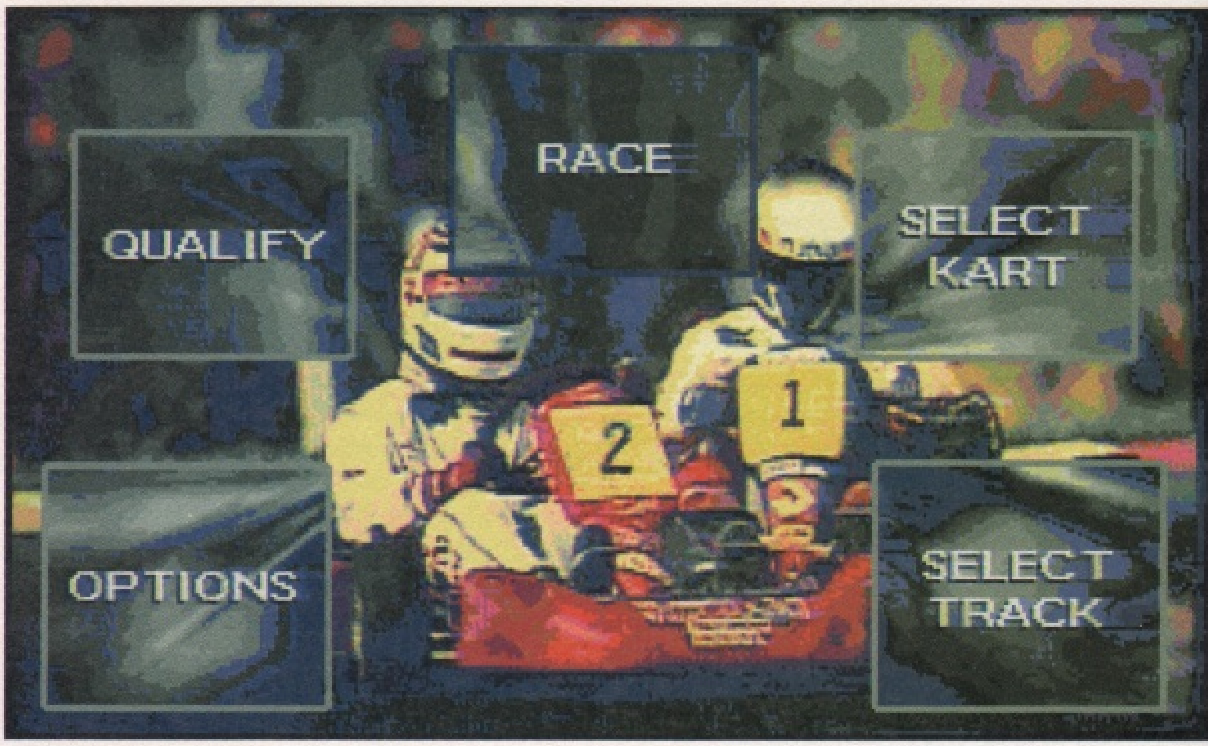
Teen Wolf 2, Mortal Kombat The Movie 2, Superman 3 and 4, Ace Ventura 2, Crocodile Dundee 2, Virtual Karting 2... what does Islona's latest game release have to do with all of those movies? They're all sequels that should never have been made. In case time has erased the memory of this particular wound, the original Virtual Karting was released a couple of years back by fly-by-night label OTM. VK boasted 50 frames per second (on a stock 1200, even) of first-person perspective kart racing, inspired by creator Fabio Bizetti's love for and personal involvement in the sport. In order to achieve 50 fps, however, the graphics were dithered in a very nasty fashion, it was impossible to get a 1x1 non-dithered display even on a faster machine, and in general the game was no fun to play.

VK II boasts 50 fps, even on a stock A1200. In order to achieve 50 fps, the graphics are still dithered to hell and back and it's still impossible to get a 1x1 non-dithered display, never mind the fact that by now most anybody who is ever going to buy an accelerator has one. The game is still no fun to play, and in fact it's taken a turn for the worse – the graphics are not only still as horribly dithered as they were in VK I, but the color choices are incredibly poor this time around – everything is either far too drab or far too garish. The first game at least had something like a realistic display – if your idea of reality is a blurry, dotted world.



Six tracks, two of each of three difficulty levels, are included on this game, which at least mercifully installs to HD with no trouble. On the beginner track, you should be able to complete a few circuits once you get the hang of driving, although the game gives you very little incentive to want to keep playing once you've finished the first lap. The harder levels require far too much precision control for a regular joystick or gamepad, so you'll have to get an analog stick or (yech) use the mouse. But as I said, the game gives you such little motivation to want to keep playing that it's hardly worth the effort. The first VK was easy enough to write off as a nice try, good intentions, lousy implementation. The fact that VK 2 simply perpetuates all of the sins puts it firmly in the category of "inexcusable." Despite claiming a lot of attention to detail, I simply don't see it – crashes with other cars don't send you into a coma, and you can drive right through the tyre barriers with reckless abandon. If you drive into the water, you do sink and end the race which I do have to admit is a nice touch – but it's the only bright spot in a game that is just like it's dithered display – irritating and unnecessary. **40%**

◄ Virtual Kartin g 2.



▲ Virtual Kartin g 2.

Wheels On Fire

I will say this – the crew behind Wheels On Fire had a lot of guts. They took a very good game concept that's done well on other platforms (but not so well as of late on the Amiga) and took another stab at it. The problem was that they didn't do nearly the job that their predecessors have.

Wheels On Fire steps away from the first-person perspective and alleged attention to detail of Virtual Karting and tries to be a fun, quick, diversionary racer in the Mario Kart vein – quirky little tracks, tiny little cars that bounce around, and so forth. Just enough competitive edge is thrown into the mix – you go up against four opponents and score points for victory and for best lap. The two best drivers in each bracket advance to the next round, and so forth, until all the points are tallied and it's time to see if you advance to the next division. The upgrade system is rather novel – not only do you want to earn cash simply to upgrade your equipment, but that equipment wears out over time, and you need to consider the weight and durability as



► Wheels On Fire.

well as the performance of each product you staple on to your car. The fact that you need armour discourages you from bouncing off every wall and car in sight, and you want to stay away from big bumps and jumps or your suspension will be shot and every turn will be as wide as a really wide thing.



▲ Wheels On Fire.

The graphics of Wheels On Fire are quite spartan – there's little horizon and track detail to speak of. That allows you to stay focused on the goal – getting across the next checkpoint and lap marker. One nice touch is the fact that the checkpoint stripes extend out offroad a bit, allowing you to hit them at a wide angle and hear the corresponding chime. The bad part of this important audio cue is that sometimes Wheels On Fire goes a little overboard with sampled sounds and more than once the game didn't give me the cue on a questionable-looking cross, and I had to blow the race trying to back up and go back over the stripe only to find that I'd already been checked.

A very clever game came out a few years ago called Xtreme Racing (XTR). It was almost universally applauded by critics, played by almost everyone, but bought by almost no one. Wheels On Fire retreads XTR's old stomping grounds, but the presentation is not nearly up to the standards set by that modern classic. It lacks the graphical and gameplay polish, the competitiveness, and the fun of XTR. In fact, Wheels On Fire very much has the look, feel, and quality level of a decent piece of shareware. I very much liked that I didn't feel like I was making a major commitment to a career of racing when I sat down for a session.

Wheels on Fire loses huge points for the abject difficulties I encountered getting it to install. The custom installer program failed on no less than three different machines with four different processor cards – and you need that custom installer to decrunch the provided executable. I eventually had to install the program on a stock A1200 – but since extra memory is required I had to find a card that would work with the game before I could run it. It turned out to prefer the Blizzard 060 to the Apollo 030 I used, as it only ran cleanly on the former. **50%**

Flyin' High Patch/ Data Disk

In last September's CU, Flyin' High was reviewed and given a poor rating due to sloppy gameplay that marred a very nice graphical display engine in the vein of Outrun, but much more slick. If only it were possible to actually steer the car, Flyin' High could be a decent game!

Lo and behold, with this inexpensive patch and track disk, you, too, can be able to reasonably control a Flyin' High car. Gone is the ridiculously inept steering system, replaced with something mortal man and a joystick can handle. Also introduced is an opponent difficulty system, 10 new tracks (2 themes of five each)

First the good part – Flyin' High is now officially in the "playable" category. Whatever else happens, we can't take that away from it. Now, whether the correction of that quite obvious oversight and a handful of new tracks should actually merit additional investment is another question.

Now that we can actually play Flyin' High, it's possible to start making judgements about whether or not it's fun – and the verdict is highly questionable. Unless you've got companions around all the time to race against (or you're going to get involved in a league like the F1GP maniacs provide), the computer has to generate stimulating competition. But that just doesn't happen here. The computer cars in Flyin' High are absolutely identical – they're the same color, they have the exact same characteristics, drive at the same speeds, and they basically will travel in the same wolfpack they start in unless acted on by an outside force – a track obstacle like a traffic cone, or you, the player, whacking into a few of them to upset the equilibrium.

Changing the difficulty level doesn't make them better drivers, just faster drivers, and



▼ Flyin' High.



▶ Flyin' High.

the end result is still the same.

Also, most of the tracks in Flyin' High are actually very easy to drive. You basically have to just hold down on the accelerator (which can now be toggled between up or the button) and try to avoid whacking into walls.



▼ Flyin' High.

There's no hairpin turns or trecherous chicanes to speak of. Course design remains a real killer of the fun of Flyin' High.

The new tracks are in the Lava and Space genre. The Lava tracks are quite good looking and a nice change of pace from the stock 20 that come with the original game. On the other hand, the Space tracks are done in annoying fashion – there are lots of "floating asteroids" whizzing by, which not only creates perspective problems thanks to the funny locked-camera but also makes it very difficult to discern when the stationary asteroids sitting on the track are about to come up in your face. A neat idea but they should have taken a look at the implications for gameplay.

If you're already a Flyin' High owner, by all means, spend the extra fiver and make the game at least palatable to control. If you've been holding off just because of what you've heard of the control, this new patch should make it worthwhile. But if you're not dying to add a racing game to your collection, Flyin' High is just not well-grounded enough for you. The patch is enough to promote the game's overall score out of the gutter, though. **74%**

Shrak for Quake

■ **Price: £19.99** ■ **Available from: Weird Science © +44 (0)1162463800**

Dig into Quake add-ons and it's hard to remember that ID actually give you a mission at all. One conversion that encourages amnesia is Shrak, from Quantum Axcess.

Unfortunately what Shrak doesn't do is provide you with a fundamentally novel plot. The online manual doesn't give you a job description, but "space marine" would probably do the job fine. One thing I wasn't very fond of in Quake's original mission was the way the individual episodes were so easy to arbitrarily pick at will – the selection of the level was neither an integrated part of the story nor a simple menu choice (as in Doom).

Shrak does make it a part of the story – after you do the customary "choose your skill level portal" bit, you're set down in an abandoned transporter centre. At first, you can only operate a limited number of transporters, but buried within the different realms you can access are the computer parts necessary to fix more of the broken bits and get you closer to your ultimate goal, fixing up your crashed spaceship.

Along the way, however, it would be considered nice if you would rid the galaxy of the mutant threat being put together by a powerful entity known as Shrak. It seems that in the future, mankind once again created horribly powerful mutants to fight its wars, and once again those mutants went wrong and became a threat to their creators, and this Shrak fellow is harnessing all of their skewed-DNA resentment.

Be Prepared

Shrak completely reworks the Quake weapon system, and adds a couple of novelties whose time has definitely come in the world of 3D gaming. The usual range of power is represented, from pea-shooter to ICBM, but the two interesting exceptions are the "Inflator" and the "Friend-Maker". The Inflator is a small dart gun which, if it hits its target, releases supercompressed gas into the bloodstream of the target. In theory, the target will bloat up, float up into the air, and explode in a gooey mess. It's only good for use at short range because it's so hard to aim, and some creatures are immune or require multiple hits.



▲ How to tell a scorpion "I love you".

The Friend Maker strikes me as something which would have fit well in the comic-book style of Duke Nukem 3D. It releases a neural pulse which, for some targets, will turn them over to your side and kill as many of their former allies as they can until they're killed.

Very handy, but difficult to use effectively in a firefight, because you take a real risk that it won't work and while you're trying to convert them, they're trying to blow you away. You also have a "utility belt" with some dandy accessories. The launchable proximity mine is quite nice (although it gets to be easy to blow yourself up if you're not careful – the mines don't discriminate), but the other two are the real gems. Finally, a hero who has planned ahead for the sorts of things hero's often have to do – climb difficult heights, and get around in the dark. Shrak gives you a grappling hook and rope, and flares which you can use to light up dark corridors. The flares are the best, most obvious, solution to the "dim light for dramatic effect vs. actually being able to see the enemy" debate that always goes on in these 3D shooters.

Probably the best new monster in Shrak is the nasty eyeball which chases you around shooting lightning bolts. The killer is, after you've dispatched the eyeball, the remains stay electrically charged for a while, and can actually do more damage while you're trying to get past than when the eye was alive. Shrak attempts to set atmosphere not just through action and new sound effects and music but with "room descriptions" that appear at the top of the screen. They're not used as often as they might have been, though – they do a good job of setting up action at the beginning of the game but I was hoping for more. The designers probably thought it slowed down the pace too much to force the player to sit and read too many, but a few more of the sort letting me know that I see all sorts of alien life forms on my scanner in the room just through that door could have gone a long way...

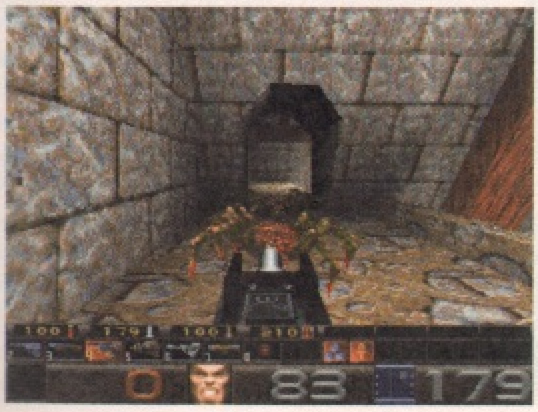


▲ Purple means he's on your side, two heads and all.

The level designs are in general quite solid. The underwater action is more merciful than in Quake, not requiring as many feats of blurry-eyed navigation through muck and slime (although there is some of that), and you don't get the feeling too often that you're deliberately being kept from reaching the next level just to prolong the game.

Since the vast majority of Quake add-ons are focused on deathmatches, it's a rare treat to get a coherent story for single player action, and even rarer to get one that's actually quite fun to play. ■

Jason Compton



◀ These spiders are neither itsy nor bitsy.

Shrak for Quake

■ Processor....020 & FPU min	Graphics 84%
■ Number of disks......CD only	Sound 87%
■ RAM.............................8Mb	Lastability 97%
■ Hard disk installation.35Mb	Playability 94%

OVERALL

Probably one of the finest add-ons for Quake.

88%

Quake: Mission Pack 1

■ **Price: £9.99** ■ **Available from: Weird Science © +44 (0)116 2463800**

That notorious Quake-head, Mat Bettinson, puts on his ultra violent shoes once again to try out another Quake add-on.

The first official id software Quake mission pack also works a treat for Amiga Quake, hoorah! This add-on pack provides a whole new set of missions to play in conjunction with extra deathmatch levels, monsters and of course weapons. The single-player game of Quake itself isn't the fantastic experience it could be, but the Scourge of Armagon remedies that nicely.

Three extra episodes sport some of the best Quake level design seen yet. In fact this mission pack is still generally regarded as superior to the second mission pack. Usage of circular/spinning objects and some other architectural firsts adds to the complexity and believability of the landscapes.

The three extra weapons are well thought, the first being the proximity mine layer. This is a second mode of the grenade launcher that places a dormant mine on the floor. Anyone or anything foolish enough to come too close will be rewarded with blast damage similar to a regular grenade. Proximity mines unsurprisingly come into their own in multiplayer deathmatches.

Impressive careening

The second new weapon, and my favourite, is the laser cannon. This handy device unleashes rapid fire bolts of crimson laser fire, which is bad enough, but they also bounce off walls.

In tight corridors and other tight spots, the shots careen impressively from all angles ensuring a good few land home but care must be taken not to hit yourself with the rebounds. The weapon also doubles as a very effective long range weapon which can do extremely great damage to a target at any range.



▲ Beautiful levels with ugly monsters – now that's what Quake is all about!

The last weapon is the Mjolnir, the mythical name of Thor's war hammer. This is one very nasty beasty and uses a wad of electric cells in a single discharge but rewards with a spray of electrical death in every direction. It's possible to kill many enemies in one hit or leap down on your buddy in multiplayer, slap the ground with the Mjolnir and score a sure fire kill. In fact it might be a little too powerful there...

There's also some new bad guys in the Scourge of Armagon, the most interesting of which are the Gremlins. These little beasties are decidedly unpleasant and can often be seen ripping into corpses of the fallen – be it other monsters of their own fallen brethren.

As if that's not bad enough, they will actually swarm all around you making mischeivous tittering sounds, steal your weapons and turn them back upon you. A Gremlin equipped with a laser cannon? Surely not! Oh yes, oh my word, yes.



▲ Mjolnir in action – would you want to be there without it?

Friendly Shambler

The mission pack blends the old and new monsters effectively. Another new foe to encounter comes in the form of the Centroid which is an armour plated cyborg scorpion creature that fires dual nail-guns. Ouch! When the going gets tough like that, we may need to call in reinforcements and those can be found in the form of the Horn of Calling.

This will summon a Quake monster to act as your buddy who will then faithfully attack everyone and thing that isn't you. In one memorable part of the the latter missions, using the Horn results in a friendly Shambler, one of the most fearsome standard monsters, rendering your enemies with his lightning discharges. Whoop!

The Scourge of Armagon is second only to Malice for a third party add-on to Quake. If you find Quake a bit limiting in the single player game, there's the potential for a new lease of life with this add-on pack. Some of the deathmatch levels are also among the best I've seen such as the legendary "sky suspended" hipdm1. In the final analysis, if you want more Quake, you want the Scourge of Armagon – recommended. ■

Mat Bettinson



▲ Alright lads, calm down! I didn't mean anything by it...

Quake: Mission Pack 1

■ Processor....020 & FPU min	Graphics 96%
■ Number of disks......CD Only	Sound........ 82%
■ RAM........16Mb	Lastability........ 88%
■ Hard disk installable..38Mb	Playability........ 89%

OVERALL

A great way to get more out of Quake.

87%

Tips Central

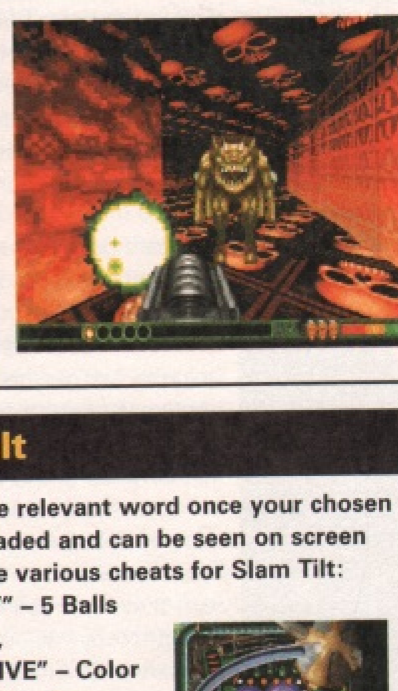
Worms: The Directors Cut

The updated version of the all-time classic Worms is absolutely crammed full of cheats and test modes, all of which are here along with a short description of what they do. To use them, just type in the words on the title screen:





"JAMIE AND HIS MAGIC TORCH" – Special weapons on/off
"PONG" – Turns the bouncy title ball off
"NUTTER" – Puts land mines everywhere
"MAGNET" – Title ball is magnetised
"SUPA SHOPPER" – (Might be "SUPA SHOPPA") When playing the game there are loads of crates filled with loads of super weapons. The priceless Ming vases are lethal!
"GRAVITY" – Title ball is affected by gravity
"BOING" – Changes title ball to something else
"RED BULL" – Worms can jump super-high
"ARTILLERY" – No one can move
"MUSIC" – Turns the title music on/off
"PESTILENCE" – Worms burn when they die
"LITTLE FLUFFY SHEEP" – (Sheep mode) Shooting any crate liberates a sheep. Unlimited fuel with super sheep!
"TOTAL WORMAGE" – (Nostalgia Mode) Original Total Wormage logo on panel. Weapon names put back to original names
"NUTTER" – All weapons, each shot of any weapon does damage of dynamite
"MAGICAL MYSTERY TOUR" – (Mystery Mode) Worm names aren't displayed
"KARTONG APA" – (Monkey Mode) Weapon names translated into Swedish! Kenny-on-a-Rope!
"OMNIPOTENT BLUE WORM" – (God Mode) Worms aren't damaged by shots. All worms can walk on water
"BETONG ASNA" – (Donkey Mode) Concrete Donkey on title screen
"WEIRDED" – Weird title screen colours
"VERSION" – Display version number
"CHIPRAM" – Display free chipram



Gloom

Firstly, some handy tips for anyone playing either Gloom or Gloom Deluxe:

In every level, there's a secret room where you can find extra weapons, health and some other useful things. They are usually walls with different textures.

In case you didn't know, the save-game function lets you save the game after each episode (7 levels) and you can restart the game from there after you have died or quitted to DOS.

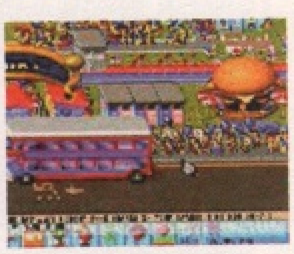
There's also a "Defender" arcade-game in some levels where you can win extra lives if you manage to complete the level (kill all the green baddies). An easy way to complete the game is that you just fly in the top right or left corner of the screen and keep shooting like crazy!

There is of course a cheat to be used if you can't get on with the game by honest means. It is complicated, but here goes:

On disk 2 of gloom in the dir 'misc' there is a file named 'script'. Use a XPK decruncher or Crunchmania to decompress this file. Now load the file into a text editor and you will be able to edit the script to start at any level. Now save the script and recrunch it with Crunchmania or a XPK packer that supports Crunchmania. I did say it was awkward, but very effective!

Theme Park CD32

THEME PARK CD32 These cheats work with the CD32 and AGA CD releases of Bullfrog's hilarious creation game. To use the cheats, enter your nickname as "MIKE" and when playing the game, then type in the following at any time:
"C" – for £100,000,
"I" – to see all the rides, "Z" – to make all the rides available, "X" – to make all of the facilities available.



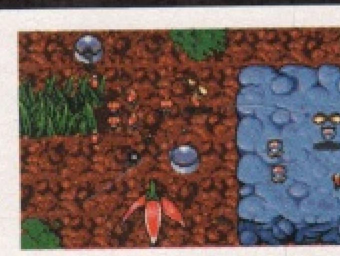
Slam Tilt

Typing in the relevant word once your chosen table has loaded and can be seen on screen activates the various cheats for Slam Tilt:
"LONGPLAY" – 5 Balls instead of 3, "RADIOACTIVE" – Color fx, "STONED" – For a drunken ball, "ARCADE ACTION" – Play the arcade sequences, "WIPEOUT" – Resets high score table, "SMILE" – Smiley face for a ball.



Tiny Troops

On the troop selection screen, move the mouse pointer to the top left of the screen and type a two digit number (02, 03, 05, 07 and so on) and you'll go straight to that level.





Adventure Helpline

Simon the Sorcerer

I'm stuck at 2 points. First being in the Tomb of Nafflin the Necromancer; every time he emerges from the tomb, Simon ends up outside the castle with no chance of obtaining the staff. How can I overcome this?

Secondly, I've reached the tower of Doom yet can't get across to the door, as the bridge collapses each time I approach the door. How do I get across?

M. Moore, Plymouth

Getting your hands on the staff requires speed and precision. When the mummy pops out of his box, grab the little piece of loose bandage somewhere on his back as fast as you possibly can, and see what happens. Now you can become a Wizkid and move on to bigger tasks as fighting the witch.

Go inside her cottage and pick up the broom. The witch will appear and you have a duel. Try again and again until you win. You'll automatically pick up the broom and the witch appears again. Use a little "abracadabra" on her and pop into the mouse-hole. With the broom in your inventory you should have no trouble crossing the bridge leading to the Tower of Doom.

Myst

I've all but given up playing this now due to being stuck on the Stoneships. I've gained access to the lighthouse, cranked up the generator, found the 2 pages, activated all the moving gizmos, set off the alarm and used the telescope but I can't get the lights to come on inside the ship! Please advise me how to complete this level so I can resume playing what was until now a very enjoyable game.

David Thompson, Ayr



Myst

Look through the telescope and pan around. Stop on the roof of the lighthouse with the blinking light. This will be at the 135 degree mark. Go back down the passage to Sirrus' room. On the wall, 1 landing up from either brothers room, will be a large recessed plate.

Pressing it will reveal a secret passage to the compass room. On the floor of this room is a large antique compass. Circling this compass are a series of small buttons. Press the 12th button from the north position, but beware! If you press the wrong one, you will trip the lights and have to go back up to the lighthouse to recharge the battery pack. A light goes on if you press the right button. Time to go back up to the pump station. Press the left button and a ship chamber will drain.

Go below deck and note that the light you just activated with the compass button is illuminating the room:) Touch the table top and the linking book will materialise. Remember, you can go into any of the chambers without the benefit of light. Both bed chambers appear to have independent energy sources and are lit up regardless of battery charge. However, if the underwater light is not lit, the book will not appear on the table. With the Myst linking book before you, open it and touch the picture to return to the library on Myst Island. Insert the red page in the red book, sit back and listen to Sirrus.

Simon the Sorcerer

I have a big problem. I have found the shape sifters tower and the Druid is helping me but he's polymorphed into a frog and he has told me to get him a herb to stop him polymorphing. Problem is it's on an island. I have found a walkway to the island but their is a loose plank and I don't know how to fix it.

Their is a hammer in the shop for 2 gold pieces but I have no money at all to buy it with, and the only money around is under a dragon which I can't get to. What do I do?

Julius Arthur, Truro



Myst

Can't get around without money these days, can you? What you have to do is get into the dwarf mine. The password is on the rock in front of the entrance. To get in you also need a beard and a beer which both can be found somewhere inside the Drunken Druid. Enter the mine and don't come out without a gem. Now go to the Dodgy Geezer and give him your Gem. Sell it for 20 gold pieces and not a penny less. Now you have enough gold to buy the Hammer, and with it you get a free nail! While you're in there pick up the White Spirit as well for later in the game. With the "how to get to the island" problem out of the way we move on to the dragon. Enter the cave of the dragon and get blown out.

Re-enter the cave and use Cold-remedy on dragon. Re-re-enter the cave and take the fire-extinguisher. Leave the cave and use your Hook with the Boulder on top of the cave. Click on Boulder to climb the cave. Once up walk to the Hole and use your Rope&Magnet with Hole until you have 40 gold coins in your possession.

Elvira2

I've looked everywhere for the key to the elevator in the caves, but no luck. Please help!

Paul Carrington, Vulcan

When you enter the Spider caves go straight into Studio 1. Find the elevator and turn it on for later. Make your way to level D and you'll bump into the Director. Use the Telekinesis spell to get the key located in his wallet.

This month kicks off with the exciting Tornado 3D rendering program from Eyelight. Plus there's lots, lots more including; an audio mixer, single slot Zorro adaptor, external soundcard, Amiga emulation software/hardware and all the usual features...

Tech Scene

Tornado 3D

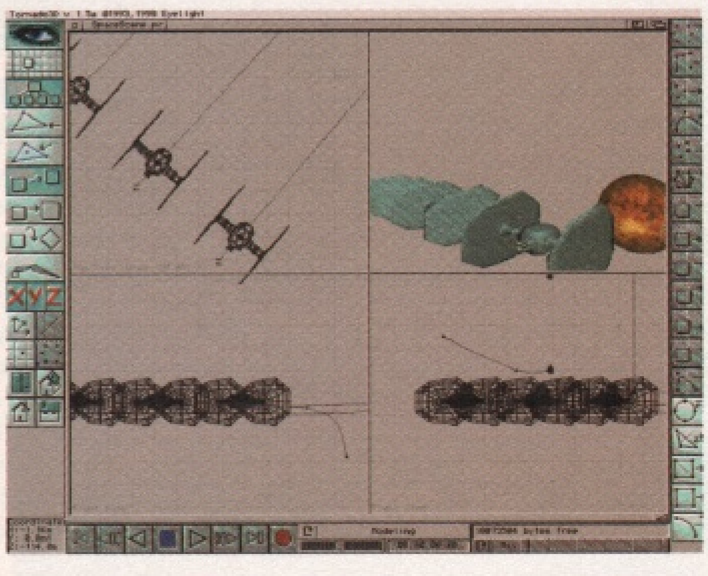
■ Price: £179.95 ■ Developer: Eyelight
■ Supplier: Blittersoft © +44 (0)1908 261466
http://www.blittersoft.com

Fancy having your Amiga struck by a tornado? You will if it is as much fun as this...

Whoever said you can't have too much of a good thing had better be right, for here comes yet another image rendering program for the Amiga. The Amiga pretty much introduced 3D modelling to the masses, and it's remained at – or very close to – the leading edge ever since. Tornado looks set to push the boundaries just that little bit further: not necessarily by offering anything brand new, but by making it all that little bit better.

Rendering programs like Tornado are designed to allow you to construct 3D objects on screen in a Computer Aided Design environment, and then use them to generate still images or animations. By modelling how light would interact with the models if they were real, it's possible to create very realistic images. If you've seen the film Titanic (and I think I'm the only person in existence who hasn't) you've been watching computer generated images of ships without even knowing it. That's how good computer graphics can be.

No-one is saying you're going to be able to render your own blockbuster with a copy of Tornado and your trusty Amiga, but it's certainly possible. The example pictures generated by Tornado are superb – as you can see – and certainly there is no reason that with a little experience you too could create similar images.



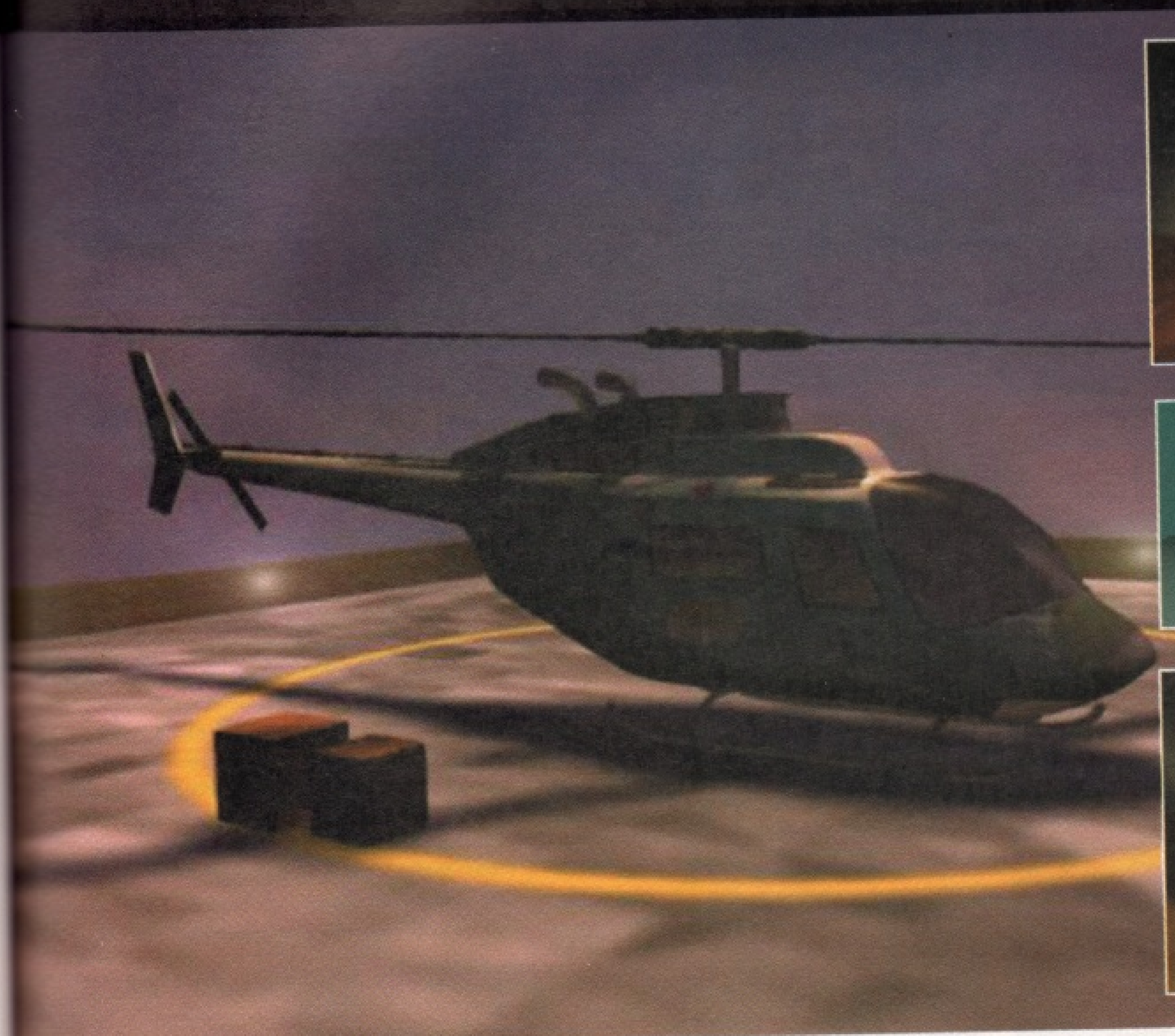
▲ The Tornado3D user interface in all it's glory. Doesn't look too complicated at all really, does it?

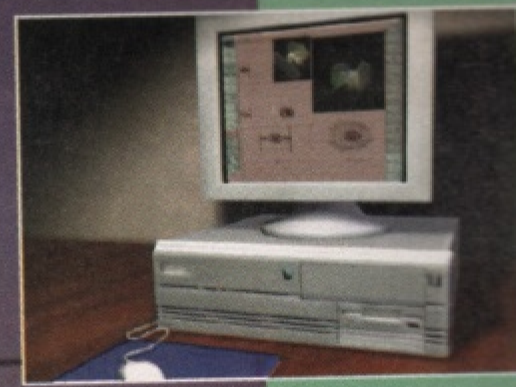
Tornado arrived on a CD-ROM, complete with a little hardware dongle which attached to the second joystick port. Installation was easy: drag the right drawer to the system hard drive and get motoring.

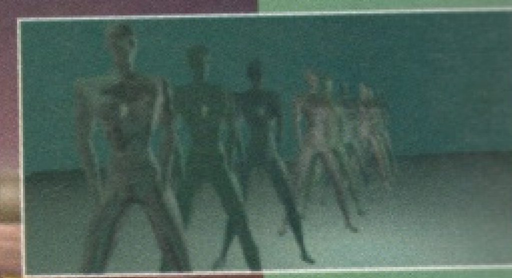
The first thing which strikes you about Tornado is the user interface. It looks very nice. Lots of shaded buttons, and a sensible four-view window in the middle. Of course, it really does help if you have a graphics card with at least an 800 by 600 display mode to see it all, otherwise the buttons can start to take up too much of the screen real-estate. If things get really cramped, or you don't like the buttons, you can redefine them yourself. The rest of the windows which pop up (or "panels" in Tornado-speak) are totally Amiga-style guide compliant.

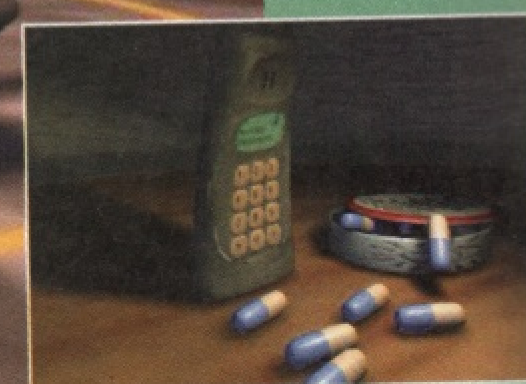
When it comes to the modelling element of the program, Tornado3D is a points-and-surfaces based rendering program, similar to Imagine and therefore dissimilar to Real3D's CSG approach. Objects can be built by applying warping and deformation tools to existing primitive shapes, and the manual demonstates this neatly, with a tutorial which builds an entire Star Trek Tie-Fighter using only a cube and the bevel tool. More advanced modelling can be achieved by defining brand new objects using the rather cool options such as Metaballs or Nurbs.

Metaballs are known as "blobs" in other packages, and exist as spheres with a kind of skin stretched over the top. They are useful for Lava-lamp animations, but also when trying to get an organic feel to any object at all. When animated they look excellent, as the skin stretches and stretches before finally breaking up. Nurbs on the other hand, are meshes which can be warped and stretched to form new objects: anything from an









▲ A few examples of what Tornado 3D is capable of.

aeroplane fuselage to a human body. If all else fails, objects stored in standard DXF, Imagine or Lightwave formats can be important and used, so there is no need to throw-away your existing collection of 3D shapes.

One element which is given a lot of emphasis in the manual is the "arcball" system for rotating objects. Effectively this attempts to emulate a trackball on the screen, and with various clicking and dragging actions you can spin an object around to look at it from any angle. I have to say that I didn't find this feature particularly wonderful, and stick with the usual rotation options in the three flat views for most of the manipulations I performed.

Material girl

The materials and textures which you can apply to an object are catered for in a frighteningly large panel window. The four spheres on the top left render the effects of the current texture, and clicking on them will bring you back to those particular settings. It's an excellent approach, as it means you can make changes and then decide if you like the result — if not, click on the sphere and go back to your original parameter values.

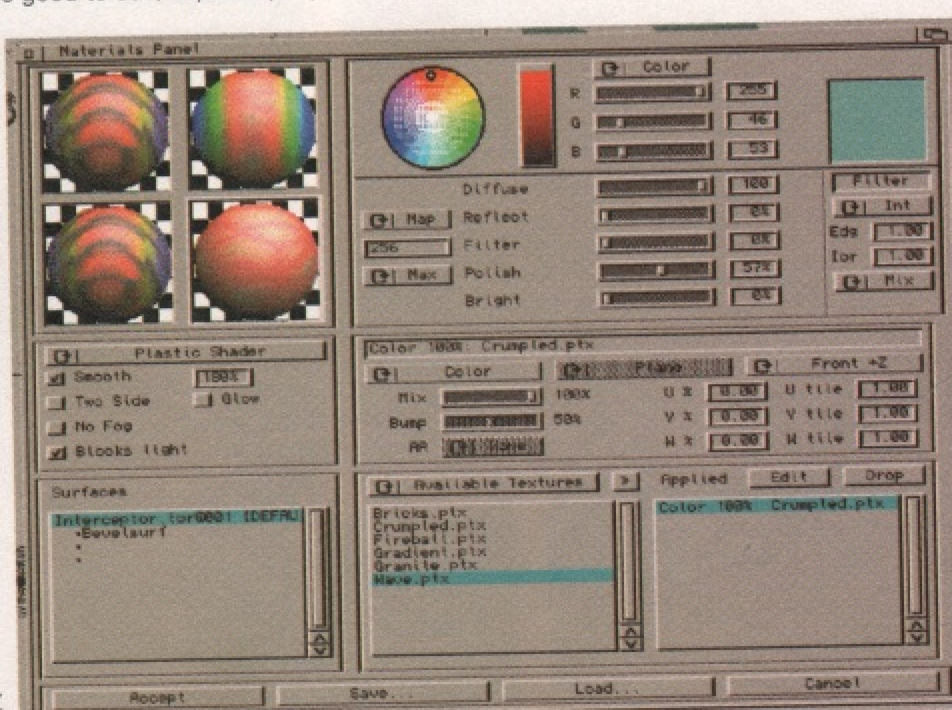
Some procedural textures are provided (bricks, crumpled, fireball, gradient, granite and wave), or you can use a mixture of images or physical properties (reflection, filter and so on) to create your ideal material. A selection is provided, although this could be larger to be honest. A good library of materials is half the battle in making realistic images.

Rendering and Animation

Rendering the final image is handled from a separate panel, from where you can select the quality and resolution. As well as IFF, it's possible to create Targa and JPG files which is good to see, especially if you want to share your work with non-Amiga users. Unfortunately there is no rendering progress bar to estimate the length of time you'll have to wait for your picture, which can make judging how long you have at the pub a little difficult.

The quality of the end result is excellent, although it does take a bit of time to learn how to get the best from the rendering engine. Playing with lights and environment settings will take up a great deal of your time, and more often than not the preview on the editor screen will bear very little resemblance to the render you've waited ten minutes to see.

Moving your models and creating animations is handled in a very sensible way with the VCR-style buttons at the bottom of the screen. Key-frames are added by punching the Rec switch, and then you are free to change object positions and record another key-frame. The system "knows" about frame rates, and so



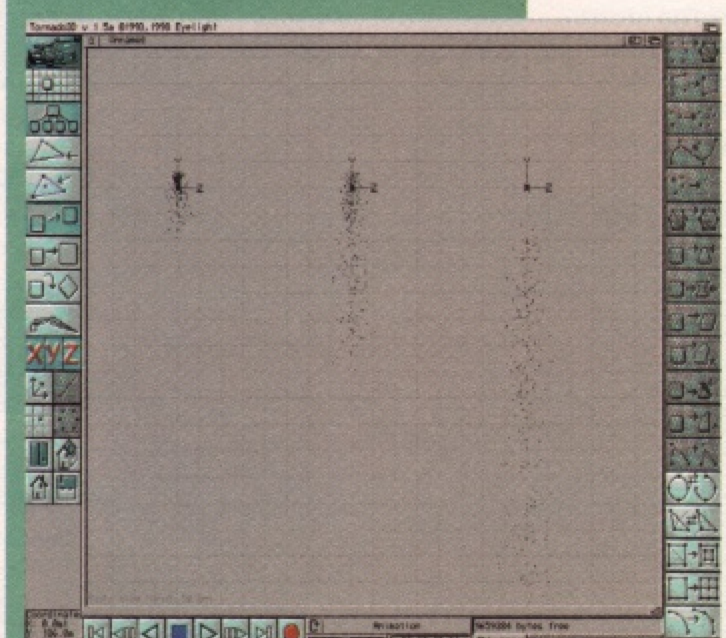
▶ From the materials panel you can adjust existing finishes, or create brand new ones using the provided textures as a starting point

Advanced Rendering Options

With plenty of other rendering programs available for the Amiga, Tornado3D needs to offer some pretty new and exciting stuff to appeal to even the most jaded graphics fan. As you would expect in a new rendering program, Tornado can generate star fields, lens flares (proper ones mind, not cheapie-after effects) and render of a field-by-field basis for professional quality animations. Soft shadows can be rendered, and the lighting effects include volumetric illumination (so you can "see" the beams of light) and the ability to make objects glow: ideal for spaceship engines.

A cunning particle system is included, which with a little work, can create some excellent effects such as explosions or drifting smoke. When it comes to rendering, if you find you have some time to kill you can switch on the depth of field option. Rendering is performed using a virtual camera which mimics many of the features of a real camera – so it's possible to render a scene which is focussed at once point, and progressively more blurred elsewhere in the image. It adds that final touch of realism to a scene.

Special affects, such as those you'll find in Imagine, are lacking. If you want to make your spaceship explode, expect to do all the hard work manually: breaking it into pieces, scattering them around and then using the morphing facilities to alter the pieces positions.



▲ Particle animation is made surprisingly simple with Tornado3D: here a cloud of pixels streams from a central point, forming a fountain effect.

you are always working in terms of frames, seconds, minutes and hours – which makes judging how your finished animation will look much easier.



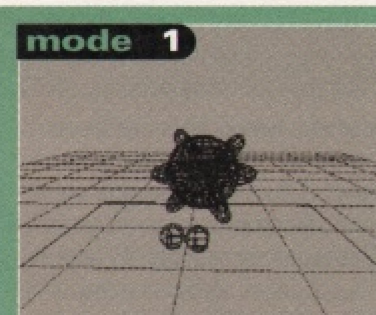
Hardware Support

Perhaps the most impressive single feature of Tornado3D is the array of hardware it supports. Of course there are 68020/30/40/60 specific versions of the program, but that's only part of it.

Practically all graphics cards can be used, especially those supporting the Cybergraphics drivers. There is special support for the phase5 CyberVision 64 card, but most impressively of all, Tornado3D will drive the CyberVision64/3D which comes with dedicated 3D hardware. The 3D chipset (called "Virge") means that the Zorro bus doesn't have to be the bottleneck in displaying graphics, with a dramatic speed up in rendering times. As if this wasn't enough, Tornado3D will also make use of PowerPC processors through the PowerUP support code. Sadly my poor old Amiga 4000 only had a PicassoII and 68040, and for the first time it suddenly felt under-powered.

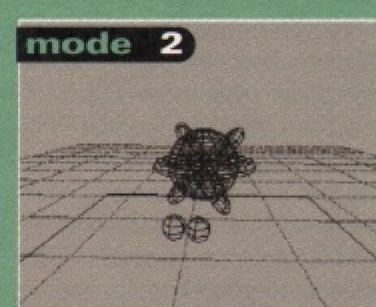
Editing and Rendering Modes

Tornado3D likes to show you what you are working on as often and as clearly as possible. Unlike Imagine for example, there aren't half a dozen different screen displays depending on what activity you are currently engaged in. Tornado's answer to QuickRender is to display the image in the perspective view in one of eight different rendering modes. You can quickly change between modes by pressing a key from 1 to 8 – these modes are not how the final render appears, they are solely for use while editing. The faster your Amiga, the more powerful the rendering mode you can use.



Wireframe

This is the simplest drawing mode, which uses only lines and points to display the image. This mode is useful on slow Amigas, or where is there a lot of detail on-screen.



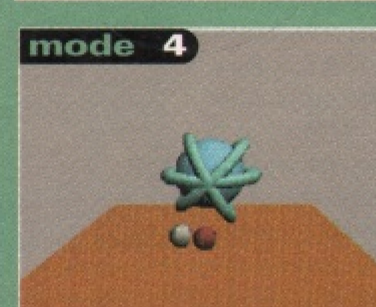
Cull Wire

This mode uses a "hidden line removal" technique to make objects look more solid. It's almost as fast as Wireframe, and useful to see which objects are obscuring others.



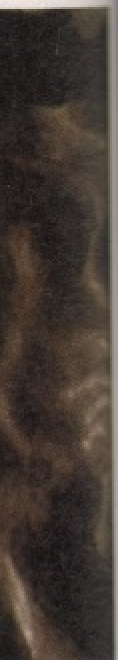
FlatShade

The first solid rendering mode, using a single lightsource and no shading on the individual facets which make up objects. The result is quickly drawn, but not realistic in any way.



Gouraud Shade

Similar to FlatShare, except that facets are rounded when shaded, making spheres look spherical rather than like geometric lumps with definite edges.



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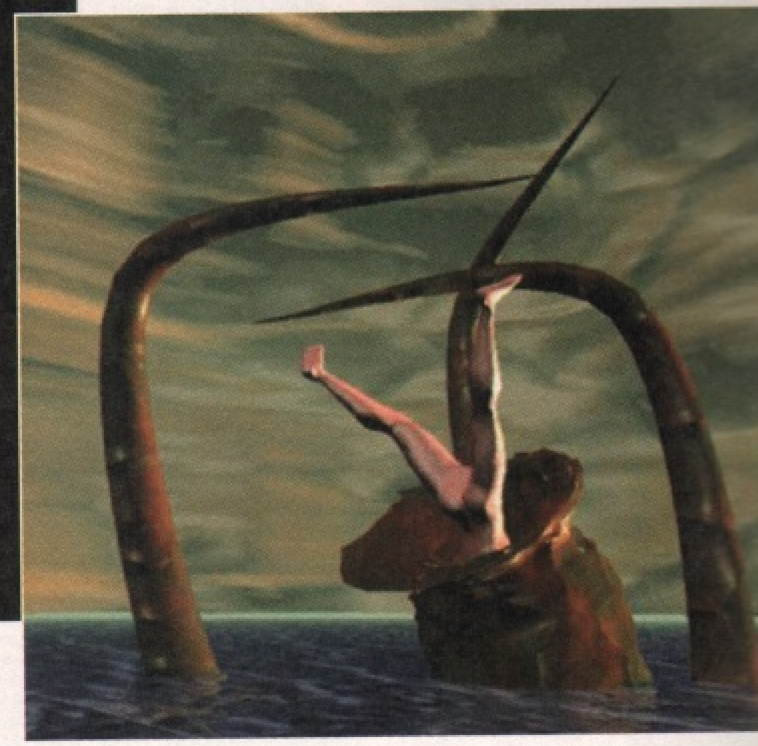
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Missing in action...

The manual starts well, with a walk-through of several important features. However, it needs many more examples, particularly of the advanced features. A description of what a particular menu option does is not enough: practical examples are what is needed, especially with an application of this complexity. Information is not the only thing missing: there is no ARexx support for scription, no text tool, and no way to import images and turn them into models.





Sadly there are also still plenty of bugs still lurking in this v1.5 release. This is probably understandable when a program as complicated as Tornado3D has to rely on third party hardware and video drivers. However, there are definitely bugs which aren't down to the exotic hardware support, and there is clearly a lot of work to do before it can truly be considered 100% finished. Whatever the reason, it makes the learning curve a lot steeper, and the experience a lot less enjoyable.

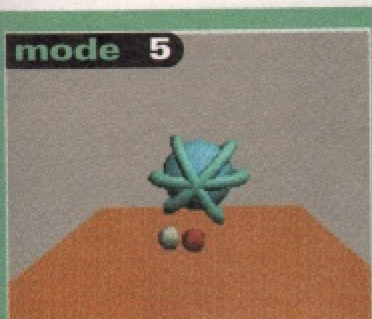
After a considerable number of hour's experimenting, there is no doubt that Tornado is packed with features, but it is extremely difficult to use. Even something as simple as selecting one object from a cluster of several on the screen is harder than it should be. The Arcball interface is a nice idea, but it's confusing and counter-intuitive. Moving the camera in a complicated scene is so difficult it is excruciating: the camera object remains active for a split-second after releasing the mouse-button, and so can end up anywhere in the virtual screen.

As Tornado will constantly try to redraw the perspective view when you make changes, you can find this simply unresponsive unless you switch down to a wireframe preview. Obviously this is due to the intensive calculations required, but there is no on-screen indication of how long it's going to take the preview to be rendered – and it could be many minutes before it appears. Thankfully it's possible to abort the redraw process by positioning the mouse pointer in the top left of the screen, but it's still a slow process.

How much you enjoy Tornado will depend very much on how tolerant you are of these quirks, and how powerful your Amiga is. On an A4000 with a 25MHz 68040 Warp Engine card, using a PicassoII graphics card, I truly considered it verging on being too slow for serious use. Sadly, an A1200 with some extra ram and a 68030 would not be the ideal machine for running Tornado3D at all – so start saving those pennies for a PPC expansion card.

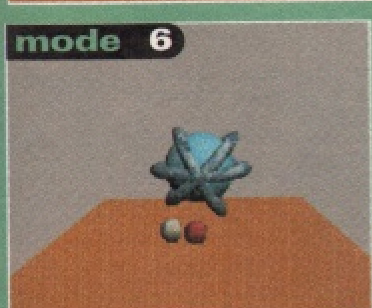
Weighed against this are the wonderful possibilities of the various high-end rendering features: Depth of field, motion blur, extensive fog control, gorgeous star fields... oh, I can feel a new animation feature film coming on. Better get that order for a new Blizzard card in right away. ■

John Kennedy



Transparent Shade

An extension to Gouraud Shading mode, taking into consideration transparent objects. Sacrifices accuracy for speed; not perfect but useful nevertheless.



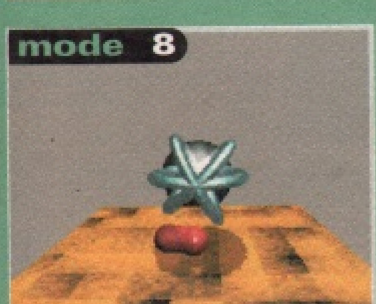
TextureShade

Again, based on Gouraud Shading, but this time the textures applied to objects are rendered too. Transparency isn't supported unless a Cybervision 64/3D card is being used.



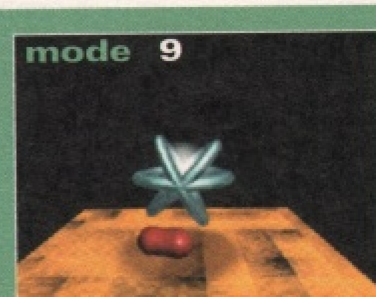
Realistic

All lights are used to create the rendered image, textures and transparency are included but not with total accuracy. Fogs and shadow effects are included. Metaballs and Nurbs are shown.



Photorealistic

On fast Amigas, this is as close to real-time interactive rendering. Although not as accurate as a full-sized render, almost every effect is taken into account for amazing results.



Final Render

The final render uses considerably more accurate rendering techniques to create a high quality image. The resolution and other effects are applied at this point.

TORNADO 3D

System Requirements: As much memory as possible, hard drive, CD-ROM drive, fastest processor you can afford. Graphics card recommended.

Ease of use 60%
Quite difficult to get into, although a faster Amiga would make it more responsive and easier to use.

Performance 90%
Astoundingly good images if you put the effort in. Many excellent rendering features for adding a new level of realism to your own images.

Value for money 90%
Lightwave look out: Tornado3D is close behind, and doesn't have the horrendous price tag attached to it.

OVERALL
Very promising program, with exceptional hardware support. Flawed, but exciting enough to risk.

87%

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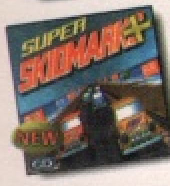
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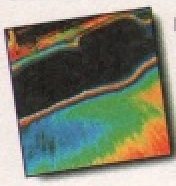
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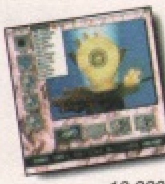
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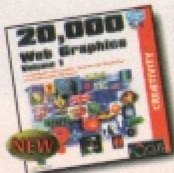




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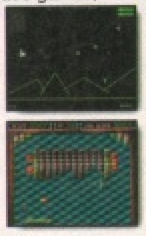
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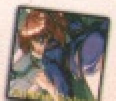
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Yamaha MU10 External Wavetable Soundcard

■ Price: £175.00 ■ Supplier: Epic Marketing ✆ +44 (0)1793 514 188

Like our recent ProjectXG DIY feature, the Yamaha MU10 is an external soundcard based on the DB50XG board. Unlike ProjectXG, you don't have to build it yourself.

The Yamaha MU10 can provide your Amiga with the ability to produce hi-fi quality sound, it can mix that sound with two other inputs – say, both your Amiga's and your CD drive's audio output – and it can act as a general MIDI interface. Sounds interesting!

The hardware

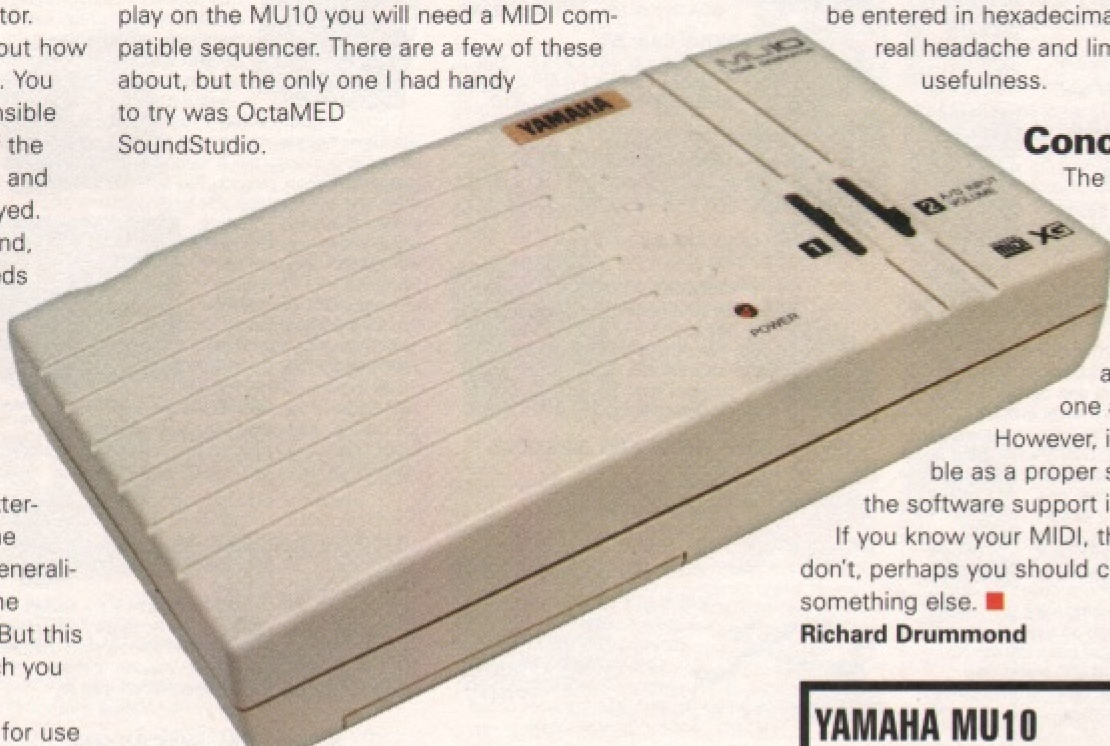
The MU10 is an external tone generator. What does this mean? Well, think about how the Amiga usually generates a sound. You supply Paula, the custom chip responsible for sound, with a memory address of the sample you wish it to play, its length, and the frequency at which it is to be played. Paula then starts to generate the sound, grabbing data from memory as it needs it. Now consider the MU10. When you wish it to generate a sound, you merely send it a MIDI command, telling it what note to play, in which voice and with what effects applied.

The main advantage of this is efficiency – since everything happens externally, there is very little load put on the Amiga. The disadvantage is loss of generality: while Paula can play any sound, the MU10 has a restricted set of voices. But this set is very comprehensive and to each you can apply a range of effects.

Yamaha have designed the MU10 for use with PCs and Macs. Connecting it to your Amiga, however, presents no problems. You can simply hook it up to your MIDI interface if you have one, or plug it into your serial port if you don't. Epic Marketing, who are distributing this card for the Amiga, supply a serial cable with it.

The software

Epic supply two CD-ROMs with the device. The first, from Yamaha, is next to useless for the Amiga: apart from some example MIDI songs, all the software is for the PC and Mac and all the documentation is in PDF format (Epic will be providing a hardcopy of these with the MU10 since there is a lack of PDF support for the Amiga). The other disk, Virtual Computer Pets (reviewed in the March '98 issue), at first sight seems a strange choice to include, but it does contain a wealth of GM and XG-MIDI songs and does have an Amiga MIDI-player. Being able to play back other people's musical compositions is one thing, creating your own is another. To be able to write MIDI tracks to play on the MU10 you will need a MIDI compatible sequencer. There are a few of these about, but the only one I had handy to try was OctaMED SoundStudio.



In use

If you have ever tried to play MIDI files with the Amiga's sound chip, I assure you that you will be impressed with the MU10. The difference is huge. The sound quality is a vast improvement, it is much quicker, and there is none of the stuttering normally associated with playing MIDI on an Amiga.

It is when you come to writing your own MIDI tracks, that you will discover the problem. Unless the sequencer you are using is GM compatible, you will have to work out yourself all the MIDI commands you wish to use. This involves scanning through pages of tables, for example, to find the voice you wish to use, or the effect you wish to apply. If that's not enough, and, like me, you are using Sound Studio, MIDI commands must be entered in hexadecimal. This is all a real headache and limits the MU10's usefulness.

Features

- GM, TG300B, XG-MIDI compatibility
- 676 wavetable voices
- 21 drum kits
- 32 note polyphony
- 64 effects types:
- Chorus, reverb, echo, distortion, delay.

Conclusion

The MU10 is potentially a very powerful device. It combines 16-bit sound, a MIDI interface and an audio mixer in one affordable box. However, it is not as flexible as a proper soundcard and the software support is pretty poor.

If you know your MIDI, then buy it; if you don't, perhaps you should consider getting something else. ■

Richard Drummond

YAMAHA MU10

System Requirements: Any Amiga with a free serial port. CD-ROM recommended.

Ease of use 62%
Fiddly to use because of lack of software support.

Performance 91%
Will make your Amiga sound great.

Value for money 88%
Costs little more than ProjectXG.

OVERALL
Good but not as flexible as a proper soundcard. **85%**

Eyetech Single-slot Zorro adaptor

■ **Price: £99.99 (£134.95 with on-board keyboard interface)**
■ **Developer: RBM/Eyetech** ■ **Supplier: Eyetech ✆+44 (0)1642 713185**

Does the Eyetech single-slot adaptor offer a way to achieve budget Zorro compatibility?

The Zorro busboards currently available for the A1200 come in five and seven-slot versions and cost about £150. This may seem a lot of cash to spend on something which does not give any tangible benefit to your Amiga. It merely increases your potential for expansion; to do anything useful, you must add on the price of whatever cards you wish to use. Recognising this, Eyetech have produced a cheaper, single-slot version. Many users may wish to use only one Zorro card, anyway – the A1200 has other places where the ingenious can attach devices – so the single-slot interface may seem like a good idea.

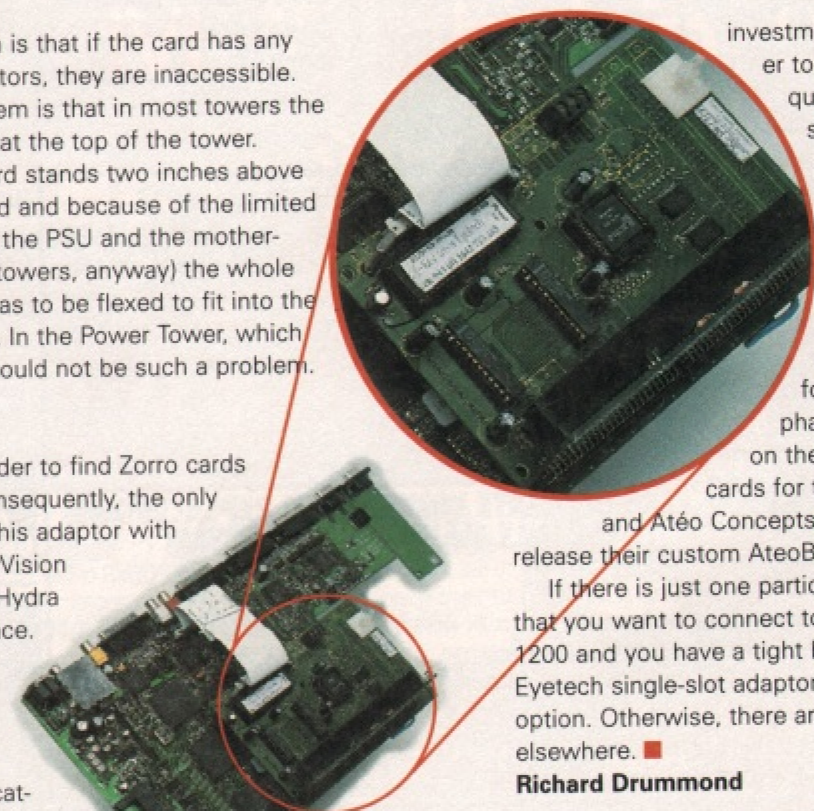
There are two versions available: one with and one without an on-board keyboard interface; the former is reviewed here. Eyetech even sell a bundle including the CyberVision 64/3D card. And if, at a later date, you wish to plug in more cards, you can always upgrade to the seven-slot bus for £79.95.

Installation

The single-slot adaptor plugs into the trapdoor expansion slot of your A1200 and features a pass-through for your accelerator card. The main part of the board itself measures about three inches by six inches and has another board fitted at right angles to it containing the Zorro slot proper. The board also has a power connector – the trapdoor interface itself does not produce enough power to drive a Zorro card – and a connector for the ribbon cable from your keyboard.

A Zorro card installed in this adaptor is peculiarly oriented – which can lead to problems. With the other Zorro busboards, the Zorro cards lay parallel to the bottom of the tower case and at right angles to the motherboard, with the rear of the card fitting into the blanking plate at the back of the tower. With this interface, however, an installed card lies in the same plane as the motherboard with the rear of the card pointing to the top of the tower (or bottom in an Eyetech tower).

One problem is that if the card has any external connectors, they are inaccessible. The other problem is that in most towers the PSU is situated at the top of the tower. Because the card stands two inches above the motherboard and because of the limited space between the PSU and the motherboard (in most towers, anyway) the whole card/interface has to be flexed to fit into the available space. In the Power Tower, which is wider, this should not be such a problem.



In use

It is getting harder to find Zorro cards these days. Consequently, the only cards I tested this adaptor with were the CyberVision 64/3D and the Hydra ethernet interface. Both worked satisfactorily. Speed tests effected with SysSpeed indicated that performance of this adaptor is identical to other Zorro II systems. One thing to note, however, is that this adaptor does not feature video-slot compatibility; cards that require video signals through the Zorro bus will not work. The keyboard interface exhibits a similar high quality as the stand-alone Eyetech version and similar flaws.

Conclusion

While the functionality of this interface cannot be denied, it does not really make economic sense at just £50 pounds cheaper than the multi-slot versions. If you need Zorro II compatibility with your A1200, the multi-slot Zorro buses represent a better investment and are easier to fit. Moreover, I question the necessity of Zorro compatibility. Soon there will be other, possibly cheaper alternatives: Micronik are developing a PCI-bus system for the 1200; phase 5 are working on the BlizzardVision cards for their PPC boards; and Atéo Concepts are soon to release their custom AteoBus system.

If there is just one particular Zorro card that you want to connect to your Amiga 1200 and you have a tight budget, the Eyetech single-slot adaptor may be an option. Otherwise, there are better solutions elsewhere. ■

Richard Drummond

The A1200 and Zorro

If you want accelerated, true-colour graphics or 16-bit sound output from your Amiga, the only way this can be achieved at the moment is with a Zorro card. The problem is that the Amiga 1200 does not actually have a full Zorro slot. This deficit my be overcome by plugging in various third-party Zorro bus-boards, such as those manufactured by Micronik or RDM. These busboards provide "counterfeit" Zorro slots but actually achieve good compatibility with the real thing. Obviously, due to the physical size of the busboard and Zorro cards, this can only be done with an A1200 re-housed in a tower case.

SINGLE-SLOT ZORRO ADAPTOR

System Requirements: Amiga 1200T

Ease of use......86%
Simple but cramped installation.

Performance......82%
Fine, but the strange location of installed cards could give problems.

Value for money......72%
Not cost effective.

OVERALL
Functional, but inelegant and expensive.
78%

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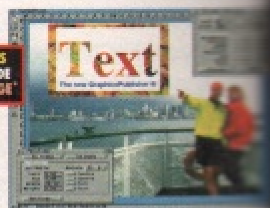
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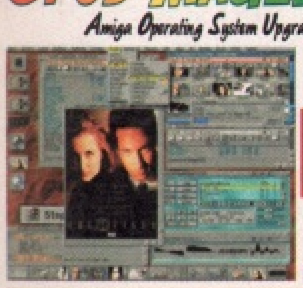
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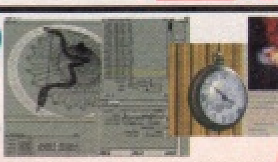
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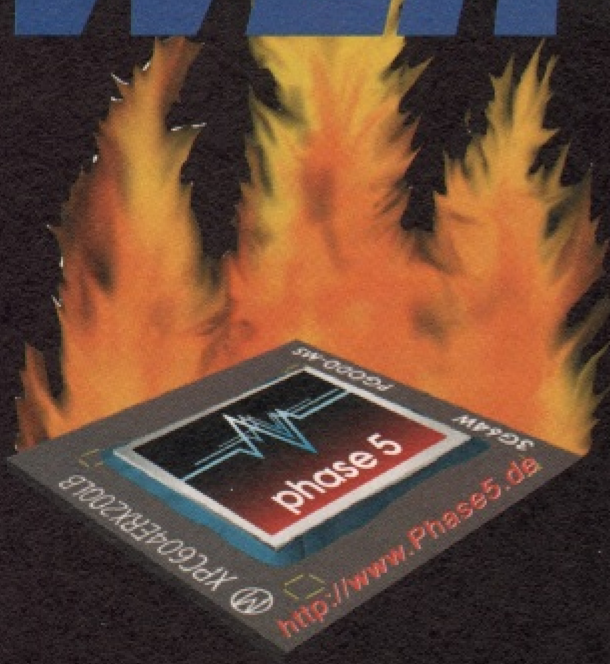
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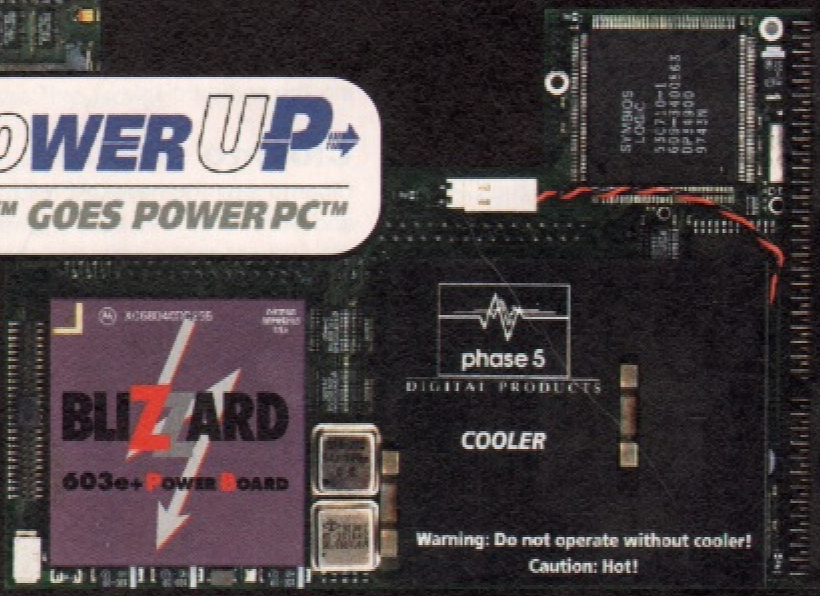
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Amiga Forever

■ Price:£39.99 ■ Publisher: Cloanto www.cloanto.com
■ Available from: Weird Science ✆ 0116 246 3800

For the first time in history, CU Amiga reviews some PC software. Have we turned our backs on the Amiga? Sold out for the big money of the PC world? Well, not exactly...

Emulation has always been a big thing on the Amiga. From the days when Commodore shipped some early A500s with an IBM PC emulator called transformer to the modern era of MamePPC and Fusion, the Amiga's chameleon like ability has been a source of pride for Amiga users.

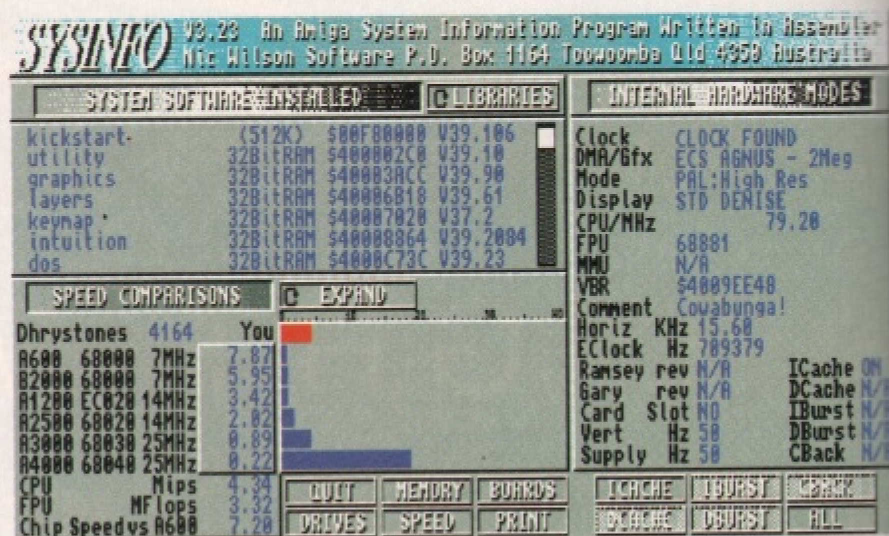
For a long time we revelled in the ability to emulate pretty much anything, if not at the best of speeds, while there was not another computer on the planet which was able to emulate the Amiga. A few years ago this changed, with the release of a horribly slow and buggy UNIX emulator. Over the years, Amiga emulation evolved into the rather useable WinUAE with Picasso96, and finally into Amiga Forever.

Picasso 96 support was a landmark development. The thing that had really held back the development of Amiga emulation on other platforms was the difficulties in emulating the Amiga's custom chipset. Normally when you emulate another machine, you have to intercept all the calls to the CPU and re-write them on the fly to be understood by the CPU of the host machine. This is a very complex process, hence the poor speeds emulation achieves. Emulating the Amiga is a lot harder than with many other machines because of the custom chipset; the extra silicon means that there is that much more to emulate. To produce an A500 emulator required emulation of the OCS chipset; this was too much for all but the most recent generations of CPUs.

The far more complex AGA chipset would not be an impossibility to emulate if the full specification and documentation were available, the overheads would be vast. Picasso 96 emulation for the host graphics hardware means that any software capable of opening a retargettable screen can be run on UAE without the overheads involved with emulating the screen display.

Cloanto step in

Cloanto saw the new UAE with Picasso96 and liked what they saw. They approached the authors of the software about making it commercial, a step which has been as controversial as it has been revolutionary. Under Cloanto, UAE became renamed Amiga Forever, and grew an official license courtesy of Amiga International's open licensing policy. To emphasise this point, you will indeed find a lovely 3D boing ball sticker in the Amiga Forever case; you can decorate your PC with this to show that it may have Intel inside, but that doesn't stop it being – at least in some part – an Amiga too.



▲ Sysinfo comes up with some pretty odd figures (where does that clock speed come from?) but the performance isn't far off – tested on an AMD k6 200MHz.

The Amiga Forever full release comes with ROM images of all versions of Amiga OS up to 3.0. There is a mass of documentation on the CD, some interviews with Jay Miner, one of the originators of the Amiga, and an excellent Windows front end that allows you to launch several different Amiga emulators. There are also experimental versions of the Amiga emulation software for the Macintosh, Unix and Amiga PPC, but these are not set up to use straight away, you will have to configure them yourself.

If you are setting up Amiga emulation on a Windows PC, you are in for a treat. The Amiga Forever disk manages brilliantly with the tricky process involved in getting Amiga emulation up and running. If you install the disk, you can then launch the emulation from a nice looking front end, which allows you to specify the Amiga emulation you want.

At one end of the spectrum there is Fellow DOS emulation running 1.3, generally regarded as the ideal emulation for running old A500 games on, while at the other end there is full blown WinUAE with Picasso 96 ready and raring to go.



◀ The Amiga Explorer file transfer software allows PC software (such as windows explorer) access the Amiga's drives.

Previous versions

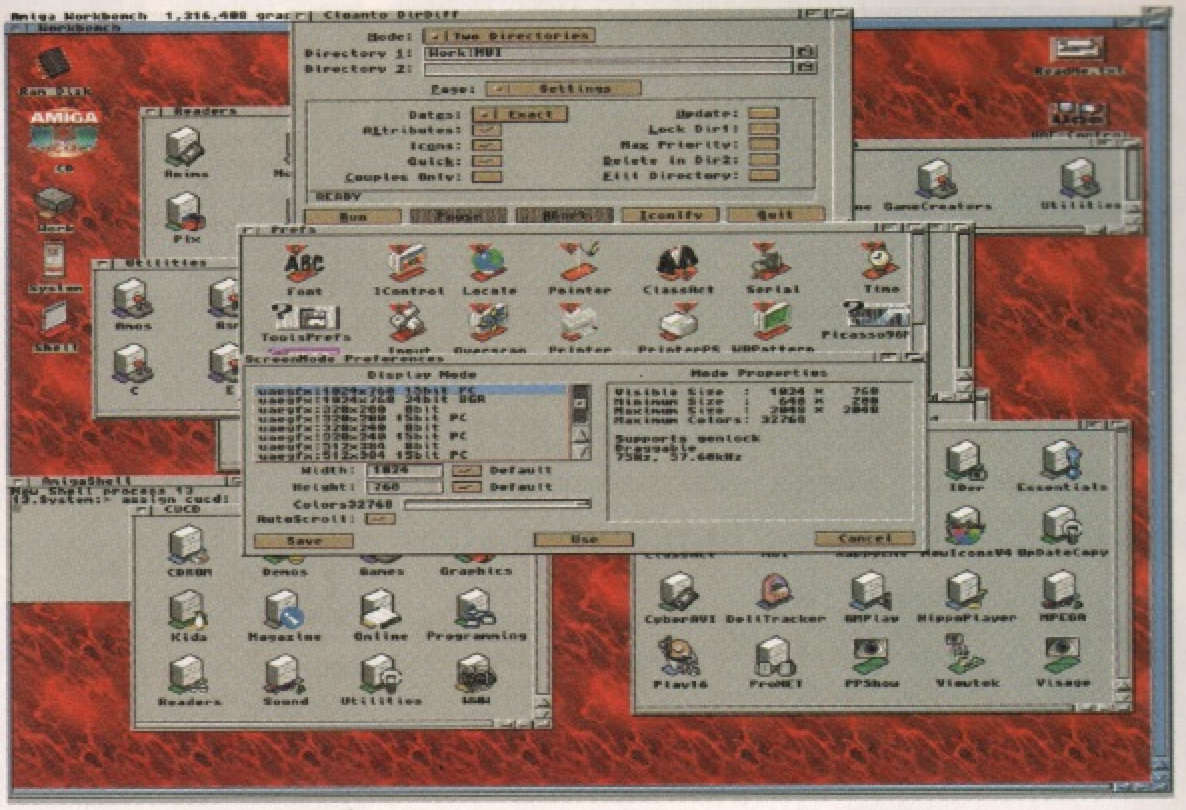
Unlike earlier versions, Amiga Forever's WinUAE is able to mount directories in your PC hard drive as a hard drive on the Amiga side. The installation includes a couple of these false hard drives, a system folder which has Workbench 3.0 fully installed, and a work folder containing a few useful bits and pieces from Cloanto. As one of these is the full version of PPaint 7.1, these certainly up the value for money of this CD. When the Amiga emulation is fired up, it recognises the system folder as being a bootable hard drive, and boots into Workbench with Picasso 96 set up and running. The folder disk format is a far more useful affair than filedisks so much more common in emulation, as it means it is possible to use the emulation hard drives under the host OS.

An emulated Amiga is not a perfect one. The differences are subtle but surprisingly noticeable; redrawing Workbench windows is not as fluid as it is on a real Amiga, and the mouse pointer does not move as smoothly. Depth cueing of Workbench windows is a bit shaky too, I often found windows disappearing behind the Workbench, and console windows sometime didn't close when they are meant to. Worse, disk access freezes up your Workbench, something Amiga owners have been blessed enough to avoid for a long time now.

Amiga Explorer & ADF

The PC CD in the Amiga Forever case is accompanied by an Amiga floppy disk. This contains the Amiga side of a very nice little addition to the emulation software called Amiga Explorer. This allows communication between a PC and an Amiga via a serial cable. The Amiga client can be run from your Workbench, or by booting the floppy to allow access without a mouse or monitor. With the Amiga client activated, all the drives on your Amiga can be mounted in Windows, and can even be opened in Windows Explorer. You could even copy your system disk over to the PC and use that as your WinUAE boot drive.

This system is ideal for someone with both machines, especially because of the disk issue. Because PCs cannot read Amiga disks, PC emulators rely on a disk file format called ADF (Amiga Disk File format). Normally accessing data from a floppy disk means turning the disk into an ADF first. Amiga Explorer converts ADF files on the fly, so a disk in the drive of your Amiga can simply be dragged across to the PC and will appear as an ADF file. Similarly Amiga Explorer will read the ROM from a real Amiga, allowing you to use that. At the very least Amiga Forever allows you to use an Amiga as a floppy drive for your emulation, but for someone using two platforms it is extremely useful.



▲ Massive screen modes thanks to WinUAE Picasso 96 support.

On the other hand it emulates screen dragging of OCS screenmodes, something many people erroneously claim is not possible with graphics cards. In other ways it is actually better than a real Amiga – where can you buy an Amiga with UDMA hard drives and 8MB chip RAM? Where can you get an Amiga graphics card for under thirty pounds?

In terms of functionality, you can think of WinUAE being an Amiga 2000 with version 3.0 ROMs, a 68020 accelerator and a graphics card. This means that software which requires an '030 or better will not work, and nor will anything that requires AGA chips. On the whole I found the degree of emulation to be quite superb, handling some pretty tricky pieces of software such as the Trapped 3 demo and MCP with aplomb. ImageFX and ArtStudio were rather less happy, and for some bizarre reason LHA refused to work on my particular set up, although LZX works.

Performance

In performance terms, how an emulated Amiga compares to a real Amiga depends on the hardware you are running it on. On a 200MHz class Pentium with Picasso 96 support, measured performance is roughly on par with a 20MHz 68030. In use it feels rather slower, but this is more a matter of the slightly creaky GUI support. Doing things like resizing windows seems more like the speed you get out of an unexpanded A1200, but general performance seems to bear out the benchmarking software.

Cloanto's presentation of the Amiga Emulation software is in most respects excellent. The documentation, although on disk only, is excellent; a well structured HTML help guide with a lot of detail. The installation is superb, a far cry from the headaches that normally follow emulation. My only gripe – 'though a significant one – is that the Workbench set-up provided is a basic Workbench 3.0 with nothing but the Picasso 96 software installed. Cloanto had said that this full release would come with a nicely configured Workbench, but you'll have to install all those essential extras yourself. This is annoying for experienced Amiga users, and means those PC users who buy this not knowing what a really well configured modern Workbench is like still won't know. Cloanto, just ask and I'll send you a nicely set up Workbench to include.

Whether Amiga Forever counts as a real Amiga is something I will not speculate on, for fear of receiving outraged mail. As far as I am concerned, if it barks like an Amiga, it is an Amiga. Current Amiga emulation does not do everything that an Amiga does, but it probably does more than a Draco. As far as trying to offer an Amiga on a disk goes, Cloanto have certainly done a good job of it. The final analysis: if you consider the attention to detail, not to mention the significant bonus of Ppaint 7.1, Amiga Forever is a pretty well priced product – and something which turns a Windows machine into an Amiga is something I find hard to criticise. ■

Andrew Korn

AMIGA FOREVER
Developer: Cloanto

System Requirements: Pentium PC with 16Mb, 16bit GFX, win 95/98/NT. Limited, experimental PowerMac support.

Ease of use 95%
Lovely front end, extensive online documentation, emulation doesn't get easier.

Performance 82%
Great networking and getting very good on speed, but could improve. Primitive Workbench installation is a minus.

Value for Money 88%
Licensed ROMs and PPaint for free, not bad! Worth it just to be able to bypass the stress of Windows.

Overall
Very workable Amiga emulation.

87%

EZ-PC Power

■ Price: £999.95 (call for options) ■ Supplier: Eyetech Group Ltd. ✆+44 (0)1642 713185
www.eyetech.co.uk

Not content with reviewing some PC software, now we are going to review an actual PC. Have we turned our backs on the Amiga? Not at all! This is Eyetech's all in one implementation of the award winning Siamese system.

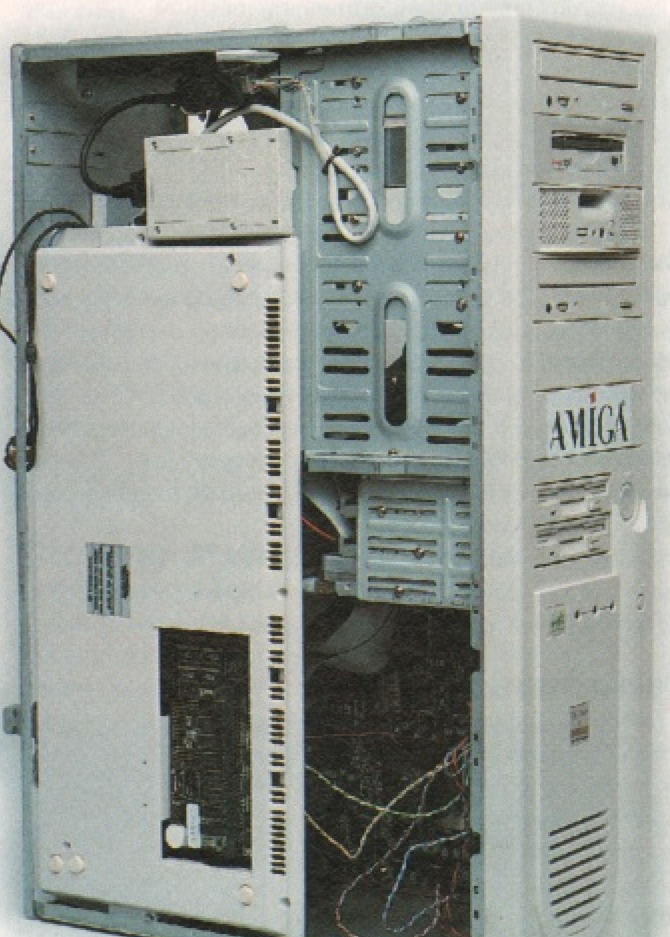
The case looks the same, but the interior makes all the difference; this is an Eyetech EZ-Tower with a difference. When you buy it, a motherboard is fitted, however in this case it isn't an A1200 motherboard, it is a Pentium Motherboard. The peculiar upside down arrangement Eyetech adopted for their tower may have a few disadvantages over the alternatives, but one real advantage is that it leaves the motherboard mounting side free. Eyetech have taken the logical step and filled it for you, with a complete Siamese system ready to go.

Fitting an A1200 to this tower is pretty much the same as it is with a standard EZ tower. If you don't think you are up to the task give Eyetech a ring and they should be able to come to an accommodation with you, but the job is pretty straightforward. It's slightly fiddly compared to the bare Eyetech tower because it is pretty crowded in there.

Ethernet Inside

A PCMCIA ethernet adaptor connects to the A1200 and is linked to a card plugged into the PC motherboard. The ethernet connection makes Siamese really fly – on screens where no massive amounts of data are being shuffled back and forth such as a Workbench window, it is almost as good as having a graphics card. Large bitmaps are still slow – ethernet bandwidth is ten times or more faster than a serial link, but it is still a very slow graphics bus even compared to Zorro 2! Thus when using DTP you will find the update can slow down a lot with bitmaps in place, but use "greek" pictures, with the bitmap replaced by an unfilled box, and you can benefit from the huge resolutions cheaply available on the PC.

Downloading a file from the drive of one machine into the drive (or memory) of another is very acceptable under ethernet. Not long ago hard drives weren't going much faster, so you can largely share drives between the two computers. You can retarget certain functions across the platforms to good effect – a small application included in the Siamese software allows you to double click on the Icon of an AVI animation file and have it play back in real time. Even a top end Amiga has



trouble doing a processor intensive task like this, but fast PCs can do it, so the Siamese software sends the data over to an AVI player client on the PC side. It is things like this that are what makes this system what it is – Siamese does not just network your two machines together, it allows them to integrate very nicely, lending your Amiga the advantages of the PC; better printing, cheaper high resolution, high colour graphics, scanners, media players and so on.

Clever screens.

It's so often the most obvious ideas that are the best, and a case in point is the video grabber. Eyetech ship their EZ-PC tower with video grabber which accepts a composite input; connect this to the Amiga's composite out and you have access to the Amiga's native video modes. You can open a Workbench window on your Windows 95/NT desktop and have the video output playing through another window, perfect for Scala displays, or even playing old games on your SVGA monitor. Unfortunately the video grabber Eyetech put in our tower was a low grade one, but talk to them and I am sure they will be happy to upgrade it.

The EZ-PC-Tower is not as keenly priced as it could be. You could certainly shave a fair whack off the price doing it yourself, but you will also cause yourself no end of trouble. There remain a number of unpredictable hardware conflicts which occur with the Siamese software – with this solution you know you're getting something compatible, and you'll have Eyetech's usually very helpful technical support if things go wrong.

A system like this is ideal for people who feel they need some of those extras that a PC can offer – Drivers, cheap peripherals, fast media decoding, high resolution displays – but would like to stick with their Amiga. ■

Andrew Korn

Eyetech EZ-PC tower

System Requirements: Amiga 1200 (minimum). Tower converted Amiga 1200 (recommended)

Ease of use 85%
Crowded tower makes installation fiddly, but it's a relatively pain free Siamese solution.

Performance 94%
Video card quality is a let down, but the power Siamese gives you makes this one hell of an Amiga

Value for money 84%
You have to pay if you want this much done for you.

OVERALL
An excellent all-in-one Siamese.

89%

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Specifications as 603e. Also requires Tower cased Amiga 1200. Onboard high speed DMA SCSI-2 interface. *Various SCSI cables available, only at time of 603e+ purchase.*

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NOT suitable for Internal Fitting In A1200

They can be used in A1200 Tower systems fitted with a properly buffered IDE Interface

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CD-ROM Scene

Well it may have been a few months since we last ran CD-ROM Scene, but this month Richard Drummond stumbles across a few gems available on disc format.

Pyromania!

- **Type:** (Playing with fire on CD-ROM)
- **Available from:** Safe Harbour
- **Tel:** 414-548-8120
- **Price:** $195 (about £120)

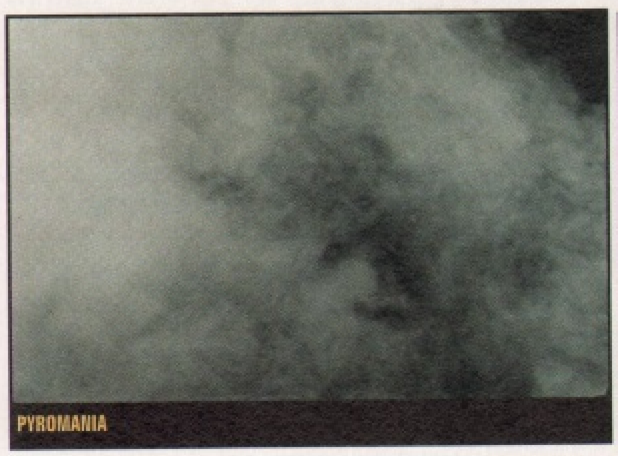
Explosions and fires are difficult effects for the low-budget video maker or computer artist to reproduce. Let's face it, most of us don't have the time, money, equipment or training to be able to set off detonations in the back yard and capture them on film. The solution is now at hand: Pyromania from VCE is a collection of pyrotechnical image sequences for inclusion royalty-free in your own desktop-video projects. There are over 30 different sequences on this double CD-ROM set, covering all manner of explosions, fires, smoke and shockwaves.

Visual Concept Engineering, the producers of Pyromania, have been in the visual effects industry for over 20 years and have worked on over 150 films including Return of the Jedi, Robocop and Starship Troopers. VCE stress the high quality of the process used to capture the images on these CDs. Each image was originally photographed on 35mm motion picture film, scanned in at 2K resolution and sampled down to 752 x 480 pixels, suitable for overscan video. The sequences are stored in a series of 24-bit ILBM files at this resolution and previews of the sequences are provided in ANIM5 format. (There are also Mac and PC versions of Pyromania separately available with suitable file formats for each platform.)

Pyromania is intended for use with Newtek's Video Toaster and Flyer systems (for example, the discs also contain a wealth of Toaster effects and FlyerClips), but it is still invaluable for those without such equipment. A fairly high-end machine is needed to manipulate these images, though, along with some image processing software and a 24-bit paint package. As an idea of the sort of software required, VCE themselves chiefly used ImageFX, Main Actor, DPaint and Photogenics in the production of Pyromania.

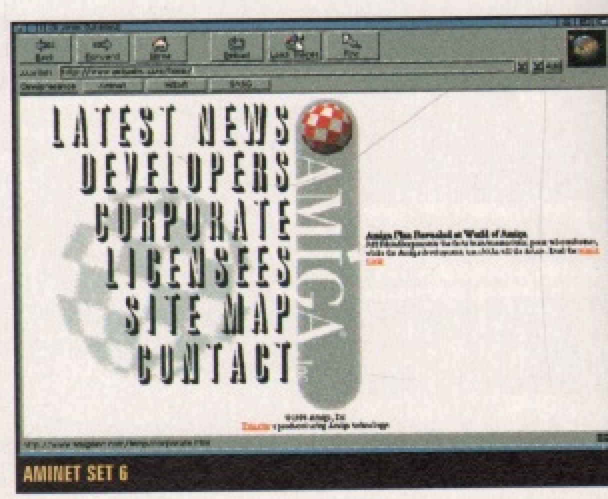
The quality of the images in Pyromania are superb. With some ingenuity and the right software impressive results can be achieved. CU's antipodean freelance designer, Seshan M., was positively drooling when I showed him some of my experiments with Pyromania and he demanded that we get a copy of the Mac version for him. Sesh


PYROMANIA

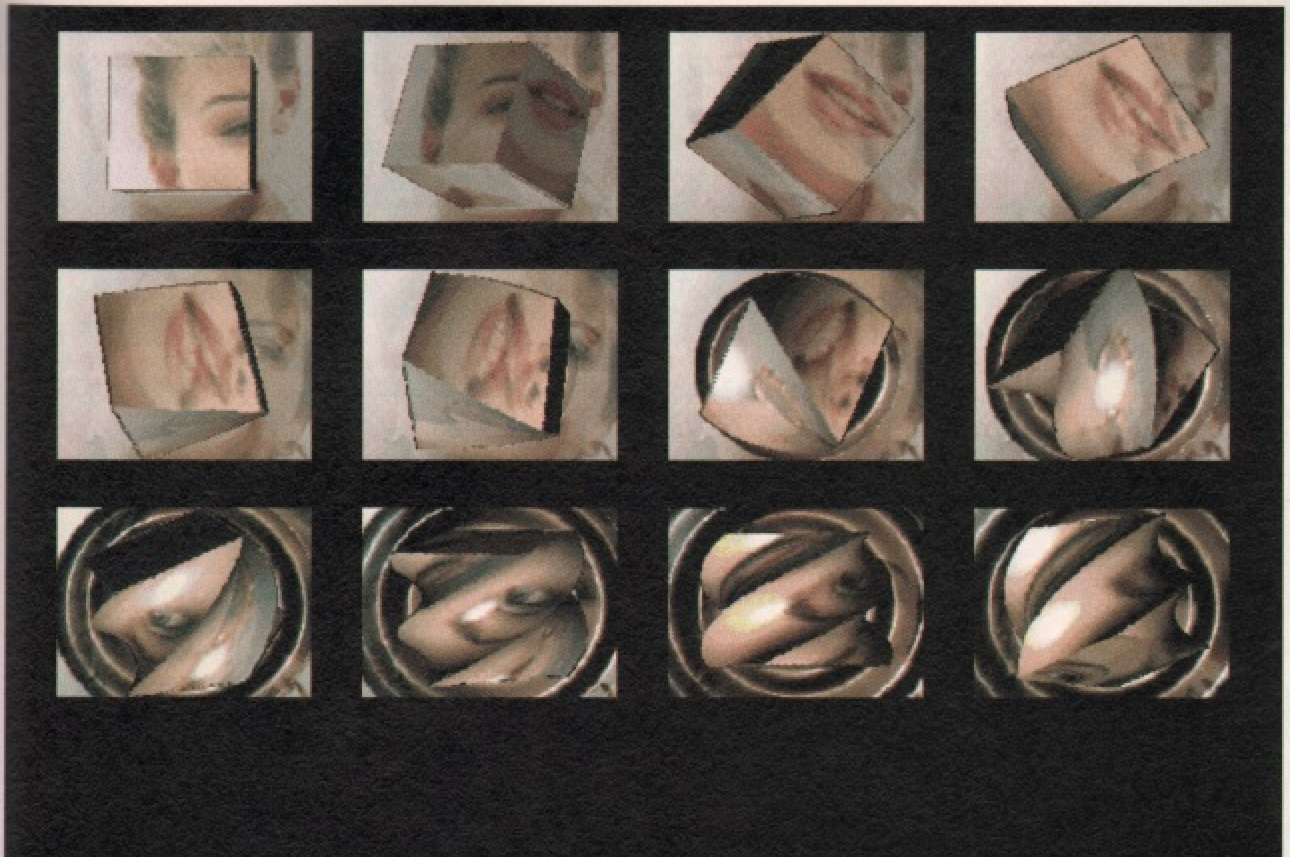

PYROMANIA


PYROMANIA


PYROMANIA



AMINET SET 6



AMINET SET 6

CDs, so most of what is written above applies here as well. The set comprises of 4 CD-ROMs containing over 4 gigabytes of software, in over 8000 archives. If you work this out, it weighs in at about 7p per megabyte. This is ridiculously good value for money. This set also contains some full versions of commercial software as well – Wordworth 5SE, TurboCalc 3.5 and PPaint 6.4 – with some cheap upgrade offers thrown in. In addition, there is also a special version of the shareware animation package Wildfire. It is highly probable that you already have copies of these pieces of software, especially the first three since they were part of the old Amiga Technologies A1200 Magic Pack, but they are all excellent products. There is nothing left to say about Aminet CDs that has not been said before (that includes saying that there is nothing left to say). This collection represents a cheap way of ensuring that you have all the latest software for your Amiga. If you have not already bought the last few Aminet CDs, then buy this. **90%**

knows his stuff, as can been seen from this issue's cover, so this is high praise indeed.

The package is supplied with a slim but well written manual. It details the contents of the CDs, the processes used to produce them, and gives plenty of suggestions and ideas on how to get the best out of this collection. An interesting point made in the manual is that to shoot a similar sequence of footage as was used in Pyromania would cost you about $55,250.

Overall, this is an excellent product. It may seem rather highly priced but it is aimed at a specialist audience not the casual user. If you are involved in professional desktop video and have need of some fiery effects, Pyromania would be an excellent choice. **92%**

Aminet 24

■ **Available from:** Weird Science, QHouse, Troon Way Business Centre, Humberstone Lane, Leicester, LE4 9HA

■ **Tel:** +44(0)116 246 3801

■ **Price:** £10.99

If there is one single factor that has played the most important role in the Amiga's continuing existence through the last five years, it must be the Aminet. There is really nothing else like it for any other platform. The Aminet CDs allow those who do not have a ticket for the information superhighway to enjoy this stupendous resource as well; and they save the rest of us the time and expense of downloading such a huge quantity of software.

This new CD follows the established Aminet tradition and structure. There is over a gigabyte of software archived and stored away in categorised directories. To make the access of this software easier an AmigaGuide front-end is provided. From here you can extract archives, view pictures, listen to modules, read documentation, and so on. A similar system to the CUCD preferences system is used to enable you to pick which tools are used for this. Comprehensive search tools are also supplied on the disc with which you can easily locate whatever files you wish.

In addition to the abundance of freeware and shareware software on Aminet 24, there is a bonus in the shape of a exclusive version of IBrowse1.2. This is a version of the latest release of IBrowse and the only restriction imposed is that the number of windows that may be open at one time is limited to two. You are also given the option of upgrading to the full registered version for a reduced price of £14.95 (the normal price is £29.95). The choice of which browser you use is largely personal (I'm a Voyager man myself), but if you prefer IBrowse and have not updated then this is reason enough to buy this CD.

This new Aminet CD is, as always, superb value for money and a must for all those who wish to see what's new in the Amiga freeware and shareware scene. **89%**

Aminet Set 6

■ **Available from:** Weird Science, QHouse, Troon Way Business Centre, Humberstone Lane, Leicester, LE4 9HA

■ **Tel:** +44(0)116 246 3801

■ **Price:** £27.99

Aminet Set 6 is a compilation of software from the last few Aminet CDs and includes some new things which appear exclusively on this set. The structure and content of these discs is similar to the regular Aminet

Aminet 24 contents

Category	Size(Mb)
Business software	30
Communications	37
Graphics & sound demos	99
Development software	63
Disk & HD tools	7
Documents	63
Games	95
Graphics software	52
Hardware related	1
Miscellaneous	25
Music modules	203
Music software	27
Pictures	190
Text software	10
Utilities	30

Aminet 6 contents

Category	Size(Mb)
Business software	88
Communications	113
Graphics & sound demos	406
Development software	115
Disk & HD tools	16
Documents	181
Games	441
Graphics software	158
Hardware related	7
Miscellaneous	93
Music modules	1017
Music software	46
Pictures &animations	878
Text software	34
Utilities	118

PD.NET

PD.NET

Dave Stroud unleashes another great assortment of Internet PD software utilities and games.

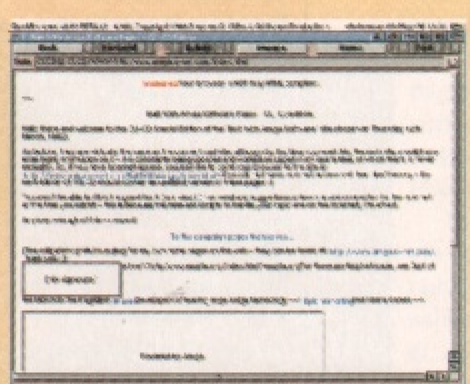
Cashana 0.35

Type: HTML Tool
Available from: Aminet: comm/www/2b
Size:24K
Requirements: Kickstart 2+Hard Drive, I Browse or Voyager

How no-one thought of this one before is beyond me. It's such a simple idea, anyone with half a brain should have been able to figure it out. Or maybe they did, and it's just me that didn't notice... Anyway, all Cashana does is take files from your favourite browser's cache directory (currently only IBrowse and Voyager are supported), copy them to another place and rename them in the process, making subdirectories where necessary.

Because no-one can understand where "000008E2.gif" or "000003CD.html" came from in the first place (except by looking at the comment attached to each file), all you need is a program that copies each file, reads the file note attached and re-names the file accordingly. All you need is Cashana. In its present form, Cashana really needs to be used alongside a program like DOpus which can send multiple files as an argument to a command.

Typing out all those convoluted filenames in a CLI window would be just a little excessive, but having said that, it should be simple enough to knock out an ARexx script to do the job for you. All in all an extremely handy-looking tool. ★★★



Formation 1.3a

Type: File cataloger/finder
Available from: Aminet: util/wb/Formation 13a.lha
Size: 100K
Requirements: OS 3.0+, 500k + RAM, Hard Drive

Formation? No, it's not another Format-replacement, but a different way of locating files on your Amiga.

With the increasing popularity of removable media like SyQuest, ZIP and Jaz drives, not to mention CD-ROMs, it's getting harder and harder to find those files that you remember seeing not long ago, but which could be in any of a zillion places. Let's face it – sometimes, you could spend all day looking for a file and still not find it. Being aware of these problems, Tim Cribbin, a Psychology Technician (I won't ask) decided to hone his Blitz Basic skills to write Formation. The key to this program is the "Groups" feature. Put simply, this allows you to place files or drawers from any location into a specifiable group.

So, for instance, you could make a group called "mpegs" and put all mpeg files you can find on your CDs, hard drives and ZIP carts into that group. You can then cache these groups (ie; not the files themselves) on your local hard disk, and browse through each group, looking for a specific file next time you need to find one. Double-clicking on a file will then ask you to insert the relevant volume in order that you can access it.

Files can be placed in any number of different groups, and what is more, Formation is file-type sensitive, so double-clicking on a file will perform an appropriate, configurable action on that file immediately. It may take a little while to set up all the relevent groups, but once it's done, Tim claims that you'll "never need lose a file again!". I hope he's right... the only trouble is, if you lose your copy of Formation, what do you use to find it? ★★★★

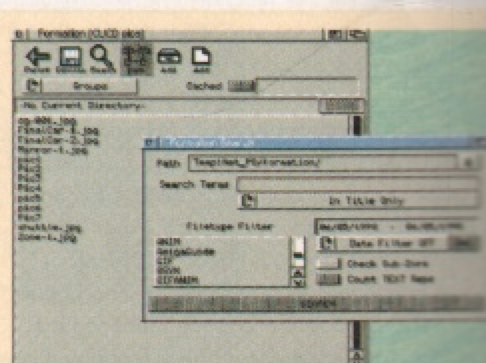
QuickBrowser 1.0

Type: Offline HTML reader
From: Aminet:text/hyper/QuickBrowser.lha
Size: 65k
Requirements: MUI

These days, more and more people are becoming accustomed to downloading a lot of their software from the internet.

This means that you'll no doubt be in possession of a web browser of some kind, even if you prefer to use FTP for all your downloading needs. Given this fact, it seems logical that program documentation should move away from plain text files, leapfrog over AmigaGuide and jump straight into HTML. Let's face it, HTML gives a much nicer appearance, with inline pictures, links, references to external sources of information, etc. Stephen Griffiths designed QuickBrowser as a quick and easy way to read such documentation without having to load up your main web browser. It takes up little room, which Stephen says makes it ideal for including in archives of other programs, but it does use MUI, which won't be to everyone's taste. Still, to users of IBrowse or Voyager, this won't matter.

Although QuickBrowser looks very nice, a lot of work can still be done, especially in the parsing of HTML files. The documentation also needs sorting out (why don't you put it in HTML format as well, Stephen? With some more work, QuickBrowser looks like it could become very useful,but until these improvements are made, I think I'll stick with IBrowse. ★★★★



Seven Realms

Type: RPG

Available from: Aminet: game/role/7realms.lha

Size:742k

The Seven Realms of A'Teth" has taken Christopher Jarvis quite some time to write using Blitz Basic 2.1, as you would expect for an RPG. Now, forgive me for saying this, but I always thought of Role-Playing games as a bit of a bore – wandering around a map, running into barbarians and so forth, pressing fire a couple of times and seeing them disappear, only to go on and do the same thing again and again.

Sure, you have to buy your weapons, keep them fixed up at a blacksmith's, purchase a couple of spells and talk to people to find out exactly what it is you need to achieve on your quest, but the need for all this roaming and fighting has always eluded me. Still, let's not take anything away from Christopher here. After a year's programming, Seven Realms looks like quite a hefty RPG, and I'm sure he's more than pleased with it. For me, though, it's the appearance of the gamewhich makes it difficult to get in to. The game uses low res, and makes use of little icons to represent places on the map – meaning you can't tell what they are until you're there. Oh, and I'll say it again: I hate that topaz font! I know that it's playability that counts most in a game like this, but had the appearance been that much more pleasing to the eye, I'm sure I would have got into this game much more.

Christopher's next game – Time Campaign – does sound a lot more exciting though – a 256 colour first-person perspective shoot-em-up with raytraced graphics. Just make sure it doesn't use Topaz, Christopher! ★★★

Peperoni 1.5d

Type: Applcon frontend for archivers

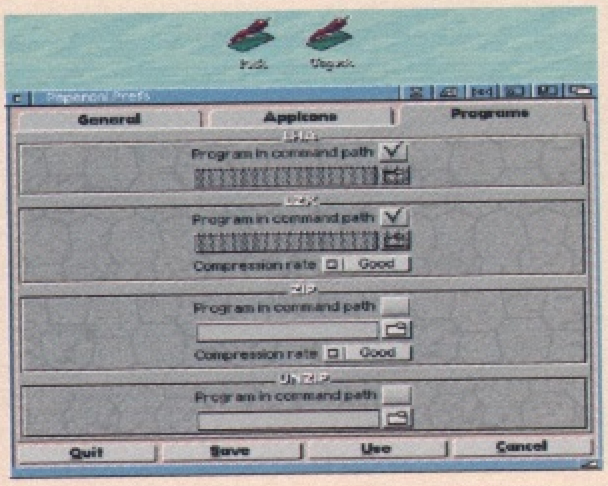
From: Aminet: util/app/Peperoni.lha

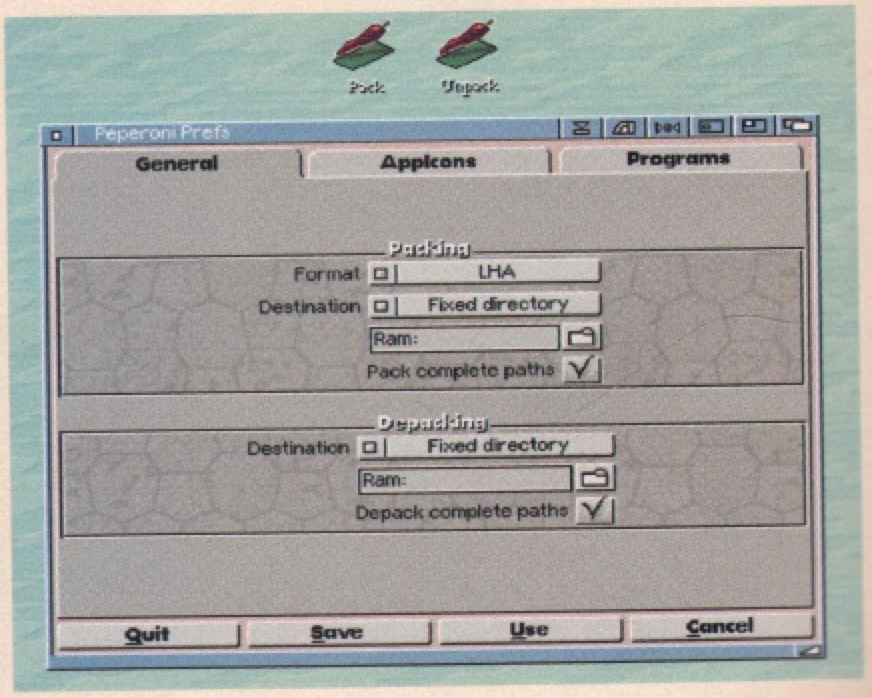
Size : 67k

Requirements: MUI 3+, OS 3+, 68020+, LHA, LZX, ZIP, UNZIP

If you're finding yourself downloading more and more archives from the net, or uncovering increasing numbers of LHA's or ZIP's on a new CD, you'd be forgiven for not wanting to "lha x another.lha ram:" in a CLI window all the time. Computers are meant to make things easier for us after all, and Peperoni certainly shares in this philosphy. Upon running, two new Applcons are added to your workbench screen, for packing and unpacking archives. You can configure Peperoni to always extract to a specified directory or device, like your RAM disk, or ask you for a destination each time.

You can also tell it which archivers (of the four it currently supports) you have on your hard disk, and where. Making use of Peperoni is simplicity itself. Just drag and drop an archive (or several) over the "Unpack" Applcon to extract them. If you want to archive some drawers or files, you just select them, drag them over the "Pack" icon, and let it do its stuff. Peperoni lets you know how it's getting on by popping up a progress-bar, but this is only helpful when you drag and drop multiple files on either Applcon – with single files, it barely gets the chance to stay open before it jumps from zero to 100 percent and immediately closes. Perhaps showing progress per file extracted from each archive would be a better idea? That aside, I can see Peperoni staying on my Workbench screen for some time to come. With a little more configurability – such as being able to customise the options sent to each archiver, and telling the progress bar not to open unless it's processing more than one file at a time – it may even become a permanent fixture. ★★★★





Best of Aminet

This month, I cannot go without mentioning something you've probably all seen by now. Just in case one of you might have missed it, I urge you to buy a PPC card just so that you can see pix/mpg/Win98Crash.mpg (2.4Mb) in all its glory and bring a smile to your face.

If you don't want to use a PPC card for all those processor-intensive tasks like mpeg decoding or fractal generation, why not use it to give your Workbench an animated backdrop in the form of stars or snow? The seventh release of WBStars - util/wb/wbstars2.lha (69k) brings with it news of a PPC version which the author is working on. Well, why not?

If you'd like another news reader, and you don't mind (yes, you guessed it) MUI, take a look at comm/news/WorldNews1.lha (578k). If you use AirMail Pro, WorldNews can use it's address book. It also supports MIME and uuencoded messages, spam filters and the starting of your favourite web browser when double-clicking a URL.

A playable demo of the long-awaited OloFight has finally been released at game/demo/OloFight.lha (824k). The full game will feature 10 different fighters, each with 10 special moves and over 400 frames of animation at 25fps. If the final offering lives up to The Real Ologram's promises, it should be good.

One thing that OloFight probably won't feature, however, is simultaneous eight-player gaming fun, so if that's what you want, game/2play/blob.lha (251k) is what you should get. Promising such delights as "Team games for co-operative blob-bashing" and "The most fun you've had in ages", Blob will certainly give you a laugh or three.

Finally this month, util/rexx/checkhdparts.lha (7k) is a simple rexx script to pop in your WBStartup drawer which will warn you if you're due a "Volume Foobar is full" requester in the near future. All you do is tell it which devices to monitor and how full they should get before you are warned, and you should no longer find yourself downloading that Doom WAD only to find you're just a couple of k short on space.

PD.POST

PD.POST

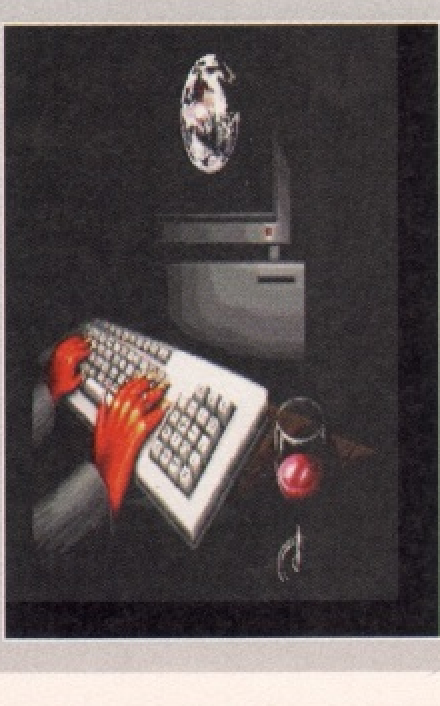
Richard Drummond has another fresh batch of handy PD games and utils available on disk.

Rites of Hell

Type: Music demo
Available from: Ben Wright, 65 South Road, Portishead, Bristol BS20 7DY
Tel: (01275) 842258
Price: £1 plus 50p P&P.

I think that Ben Wright, the creator of this collection of MED tracks, has either spent too much time playing Doom or is influenced by some of the more tacky 1980's heavy metal bands: the songs in this collection have titles like Inferno, Devoured by Demons, and Crematorium. When you boot this disk up, you are presented with some reasonable hand-drawn artwork and then a menu to choose which song you wish to listen to. Primitive, but it does its job.

The songs themselves are a surprisingly creditable effort. Rather than all the techno and dance inspired music one usually finds on computers, the driving bass and drum lines in this collection would indicate a rock influence – which is a refreshing change. They can be a bit repetitive and lethargic, even somewhat dirge-like; but I would say that Ben has more talent than most aspiring Amiga musicians. If you like this sort of thing, don't be put off by the title – why not get a copy? ★★★



GScroll2.12

Type: Graphics/video utility
Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester, M26 2SH
Tel: 0161 723 1638
Price: £1 plus 75p P&P per order.

Do you wish to do a quick bit of video titling, but cannot be bothered mucking about with Scala? Well, then perhaps GScroll is the tool for you.

GiambiScroll, to give it its full name, is a simple little utility which allows you to create a scrolling display of text and graphics. You do this by creating a standard picture image – with your favourite paint package and taller than your screen – and GScroll will scroll it up your screen. This is a very flexible method, because the only barrier to good results is your own ingenuity and mastery of the digital paint brush – and the amount of free Chip RAM you have. The interface GScroll offers is basic and offers few controls: set scroll speed, delay before start, etc. It doesn't need much, though. Its uncomplicated, if inelegant. GScroll is handy for quick, one-off titling or display purposes, and as such, worth a look. I wouldn't want to do anything serious with it, though. ★★★



SMSMaster V2.0.6A

Type: Comms utility
Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester, M26 2SH
Tel: 0161 723 1638
Price: £1 plus 75p P&P per order.

Oh, dear! Where do I start? SMSMaster is a bit of a mess – which is a shame because it could have been so much better.

The basic concept is sound and very worthwhile: SMSMaster allows your Amiga, when connected to a modem, to send short text messages to anybody with a cell-phone, by employing the SMS feature of these phones (the software only supports Cellnet and Vodaphone at the moment, but the author intends to support other service-providers in the future). What a useful idea, you might say, this is effectively an electronic paging service; yes, but the problem is that the idea has been so badly implemented, it buries whatever functionality the program has. That is a pity because it does work.

The user interface is a nightmare. It is badly designed, poorly laid out, rife with bugs, and slow to respond. It doesn't like other fonts except the standard topaz font, and the refreshing of windows and updating of gadgets is a click-and-pray affair. To cap it all, it uses a non-standard file requester, which obscures most of the entries if you have a font larger than 8 pixels high.

This program is shareware, the registration for this version being £12. Despite what I have said above about SMSMaster, I suggest that if you have a need for this program, try it out and then get in touch with the author, David Haigh. Perhaps you can persuade him to develop it further.

SMSMaster really only deserves just the one star, but I shall give it two for effort so it should encourage David in his attempts. ★★

Shareworld Magazine Volume 9

Type: Disk Magazine

Available from: (UK) Andrew Jackson, 7 Nut Tree Close, East Huntspill, Nr. Highbridge, Somerset TA9 3PN. (ROW) Carl Read, Cybercraft, PO Box 14032, Mayfair, Hastings 201, New Zealand.

Price: Free if you send 2 disks & SAE (or an international response coupon for ROW).



I have a confession to make: I generally dislike disk-based magazines. I spend so much time staring at monitor screens, anyway, that the effort required to read one of these is generally beyond me. Having said that, Shareworld seems better than most.

The system used by this magazine is Magnetic Pages, which, to be honest, is a bit passed its sell-by-date. It looks dated, Workbench 1.3-like and opens on a PAL screen, an eye-straining choice for text display. However, navigation and use is simple.

The content of Shareworld 9 is eclectic, to say the least. It contains the usual computer-orientated fodder that one finds in these magazines: that is, articles on shareware, the internet, programming etc. More interestingly, it also has short stories, general articles and essays, jokes and poems.

The text, on the whole, is competently written. Disk magazines usually tend to contain verbosity, simply because they do not face the same space constraints as the printed word. This one does fall into the same trap, and at times is anecdotal and strewn with in-jokes.

There are some memorable pieces here, though. My favourite is a satirical article exposing the alleged "Darksucker Conspiracy". It tells of how light bulbs do not emit light, but instead consume darkness; electricity companies are deceiving us into paying them for supplying us electricity, while in actual fact they are stealing away our darkness and storing it for their own evil purposes. Well, I enjoyed it.

Shareworld 9 is both an amusing and an unusual collection. There is definitely something here for everybody, and for the mere price of two disks and a stamp, you can't complain about it all that much. ★★★

Virus Checker 2 V1.3

Type: Anti-virus utility

Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester, M26 2SH

Tel: 0161 723 1638

Price: £1 plus 75p P&P per order.

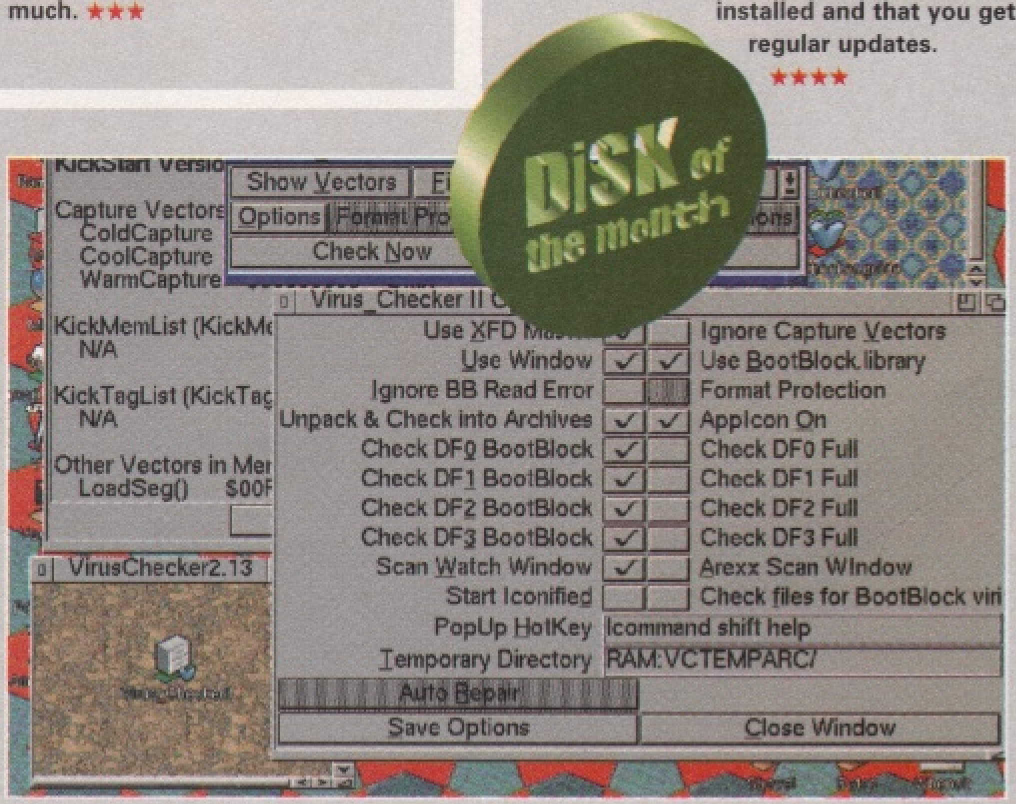
In a perfect world there would be no need for this piece of software. Luckily for the author of this program, this world is far from perfect. Viruses – like having to back-up your hard drive and network crashes – are a pervasive but regrettable part of a computer user's life.

John Veldthuis's Virus Checker has been an Amiga legend in the war against viruses, but, alas, development ceased in 1995. Recently, however, the project has been resurrected as Virus Checker 2 by Alex Van Neil. This is good news; an old anti-virus tool is of no use to anybody.

Virus Checker performs many different virus-hunting tasks: its scans the memory, the bootblocks of any disks mounted, and can scan specific files (including crunched files) or directories. It also has the ability to "watch" certain files or directories, and inform you if they get modified. The full registered version allows you to scan files within archives as well.

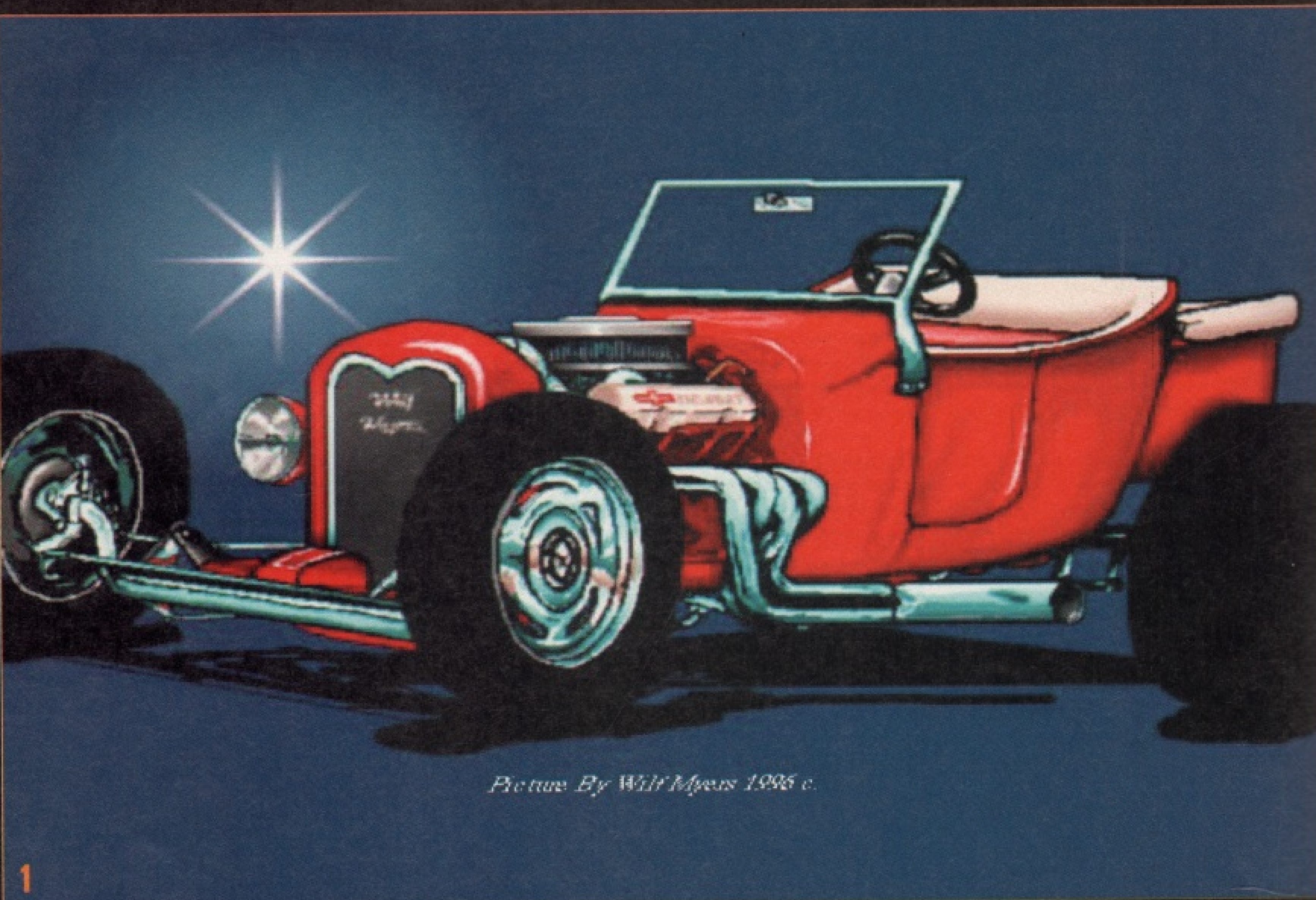
The GUI looks rather crude but is adequate. Virus Checker is a commodity: you can shove it into your WBStartup drawer, and it will beaver away happily in the background, safe-guarding your machine right from boot-up. There is also the option of putting an AppIcon on your desktop, upon which you can drop any particular files or drawers you wish Virus Checker to scrutinize. Virus Checker is shareware; registration is only $20 (about £12), and there is a UK registration site. At this price you cannot afford not to protect yourself. If you are serious about your Amiga and your data, make sure you have Virus Checker installed and that you get regular updates.

★★★★



Art Gallery

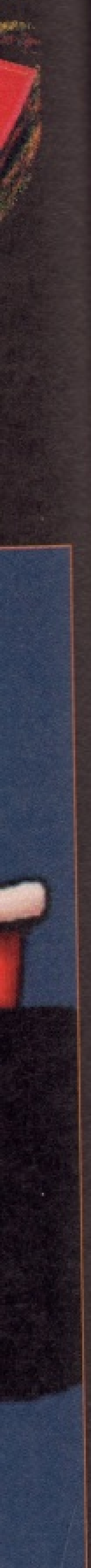
Are you a Digital Dali? Computer Carravagio? Send your pics to: Art Gallery, CU Amiga, 37-39 Mill Harbour, Isle of Dogs, London E14 9TZ.



1

See your work in print... and win a print, too!

Each month we will declare one picture in the Gallery to be picture of the month – and if it is yours, we will send you a print of your work output to an ultra high quality IRIS printer on glossy paper (that's around 25-30 quid from a print shop to you, guv') – you will never see your work looking so good! If you want to enter a picture into Art Gallery, either email it to artgal@cu-amiga.co.uk or post in on disk to our normal address, marking the envelope Art Gallery. We recommend PNG format as it saves a lot of disk space, but alternatively GIF or IFF are fine. ✶ 'JPeg' drops image quality so avoid where possible – also never use for images with 256 or fewer colours.



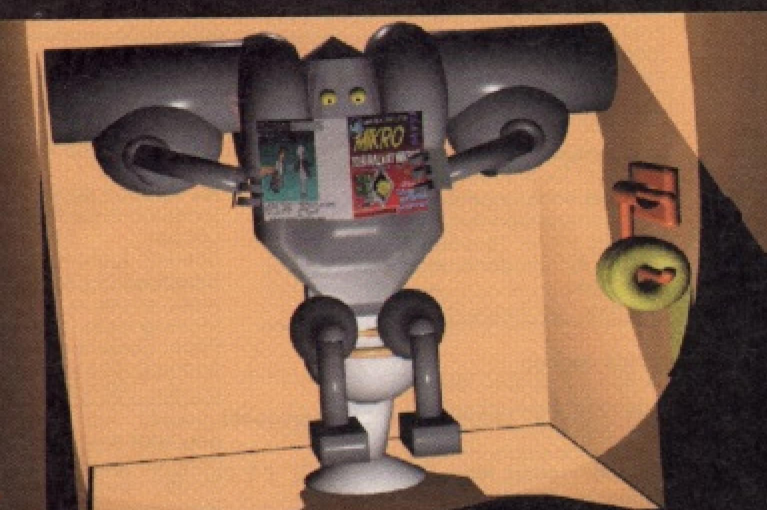
a lot of
e fine.
where
with 256



2



3



4



5

1. Final Car by Wilf Myers
Oh it's nice to see someone sending in something hand-drawn every now and then! OK, so the proportions aren't perfect and the lines aren't straight, but it has skill, character, and a certain amount of daring. I don't like the star in the background, I think it is an unnecessary distraction, but I like the modelling of the metal work – so much harder when you don't use something to ray trace.

2. Snook by Calum Cookson
Calum's 'Hammers' was Picture of the Month in the May issue, and his latest offering misses the accolade by the merest whisker. You may remember that Calum renders on POV ray, using his A1200 to do modelling and textureless rendering, moving on to more powerful machines with the data for the final render. Last time it was a Sun system, this time he used a Pentium II 233MHz, which he says "rendered quite fast, when it wasn't paging to disk, but that's Windows '95 for you."
I really like the colours and textures, a big improvement over his Hammers picture. The best thing about it is the angle of the camera, which puts the front of the tank into a very personal perspective – it looks the way it would if you were standing next to it, an important part of the game Calum is playing with scale.

3. Manga by Bernard Vergeer
OK, so it is not exactly the most artistic of entries to Art Gallery, but I decided that Bernard clearly has enough skill with Lightwave to merit inclusion. The modelling, lighting and texturing of this Lightwave render are all excellent, although I find the composition to be uninspired. Fallen pillars and highly reflective floors are something of a cliché in the world of computer graphics.
Bernard tells us that the Amiga is not dead in Holland (which is nice) and that Maya from Alias on the SGI is so good that he was seriously annoyed to find it only ran under NT (which isn't nice).

4. Bathroom by Elias Nurbi
Finnish reader Elias (who invites comments by email to elias.nurmi@kolumbus.fi) produced this humorous picture of a robot on the job with Imagine, and touched it up in PPaint 6.4. The textures need work, they are all a little similar and don't quite match the materials, but it's the idea that really counts with a picture like this.

5. Sea Dog by Philip Price
Philip Price (phreaky) is a bit of an Art Gallery regular, and it is not uncommon for him to send in work like this. His Photogenic modified portraits seem to be getting better all the time, and this latest one is the best yet. The sea foam backdrop is subtly enough juxtaposed to become almost abstract, and the recolouration and blending of the overlaid texture is well presented. The colouring is pure neo-psychedelia, very reminiscent of comic artist and film designer Brendan McCarthy.

User Groups

Let our international user-group directory put you in contact with other Amiga users in your local area.
To add a new group to the list, just fill in the form on the opposite page.

Amiga Christchurch Inc.
Location: Christchurch NewZealand
Contact: Annette Leonardo
Telephone: +64 03 3390232
Meeting times: Second Tuesday of every month 7:30 pm.
Places: Shirley Community Centre, Shirley Rd.
Address: ACI. PO Box 35-107, Christchurch, NZ

Amipack
Location: World Wide – An Amateur Radio Amiga Group
Contact: Paul Carson
Email: DJKus@CarsonJ.clara.net
Telephone: N/A
Meeting times: TBA
Places: On the Amateur Radio Packet Network.
Address: 10 Belgravia Avenue, Bangor, Co.Down, N.Ireland BT19 6XA

Waaslandia
Location: Belgium
Contact: Tony Mees
Email: waasland@glo.be
Telephone: +32 (0)3744 1319
WWW: http://titan.glo.be/~waasland
Meeting times: 12 meetings per year.
Places: We have 6 Amiga clubs in Belgium:- Antwerpen; Merksem; Aalst; Mechelen; Turnhout; St-Niklaas
Address: Lepelstraat 11, 9140 Steendorp Belgium

Wigan/West Lancs Amiga User Group
Location: Wigan/W Lancashire
Contact: Simon Brown/Ralph Twiss
Email: ssamiga@warp.co.uk
Telephone: Simon; 01257 402201 or Ralph; 01695 623865
WWW: www.warp.co.uk/~ssamiga
Meeting Places:St Thomas the Martyr School Hall, Highgate Road, Up Holland, Lancs
Address: 79 Woodnook Road, Appley Bridge, Wigan, WN6 9JR & 32 Higher Lane, Up Holland, West Lancs

Alpha Software
Location: Newcastle, UK
Contact: Gareth Murfin
Email: gazy@globalnet.co.uk
Telephone: 01670 715454
WWW: http://www.users.globalnet.co.uk/ ~gazy/
Meeting times: 8 - 9pm.
Places: IRC #AmIRC GalaxyNet
Address: Alpha Software. Gareth Murfin.113, Cateran Way, Collingwood Grange. Cramlington Northumberland. NE23 6EZ. UK.

Convergence International
Location: International
Contact: Ben Clarke
Email: enquiries@convergence.eu.org
Telephone: 0956 985959
WWW: www.convergence.eu.org
Meeting times: 8pm (GMT), Wednesdays and Sundays
Places: #converge (IRCnet)
Address: 49 St. Gilberts Road, Bourne, Lincs, United Kingdom

Amiga Club Genk (ACG)
Location: Genk, Belgium
Contact: Bart Vanhaeren
Email: amiga.club.genk@skynet.be
WWW: http://users.skynet.be/amiga/acg
Meeting times: every 1st Sunday of month
Places: Cultural Centre of Genk, meeting room 1
Address: Weg Naar Zwartberg 248 B-3660 OPGLABBEEK, BELGIUM

Relax ITC
Location: Poland
Contact: Shandor
Email: shandor1@polbox.com
Telephone: +48-91-357184
Meeting times: TBA
Places: unspecified
Address: ul.Maciejewicza 1/27 71004 Szczecin 10, Poland

National Capital Amiga User Group
Location: Washington D.C. USA
Contact: Fabian Jimenez
Contact by: Phone (please send us your phone number... Fabian)
Telephone: 301/924-0750 (10pm – 1am EST)
Meeting times: 12:00 noon EST
Places: Dolly Madison Library
Address: Fabian Jimenez, NCAUG PO Box 12360, Arlington, VA 22209 USA

Amiga World Special Interest Group
Location: Athens, Greece
Contact: Menis Malaxianakis
Telephone: 301 - 9026910/9012019
WWW: http://www.compulink.gr/amiga
Meeting times: 5pm Saturdays Places: Athens
Address: Menis Malaxianakis, Giannitson 11str. 17234, Dafni Athens. Greece

Amiga Forever!
Location: Hampshire
Contact: Stuart Keith
Telephone: 01703 861842 all day
Meeting times/places: TBA
Address: 101 Ewell Way, Totton, Southampton, Hants S040 3PQ

Mutual Amiga Computer Enthusiast
Location: Beresfield, Newcastle, Australia
Contact: Ken Woodward
Email: ken@rich.com.au
Telephone: after working hours
Meeting times: 7pm 1st & 3rd Wednesday of month
Places: Beresfield Bowling Club.
Address: 59 Carnley Avenue, New Lambton, Newcastle, NS Wales Australia

Kickstart, Surrey Amiga User Group
Location: Surrey
Contact: Rob Gilbert
Email: gilbie@arrakis.u-net.com
Telephone: 01932 875336
WWW: www.arrakis.u-net.com
Meeting times/places: Monthly (TBA)
Address: 10 BRox Road, Ottershaw, Surrey. KT16 OHL

Canberra Amiga Users Society Inc
Location: Canberra, ACT, Australia
Contact: Alex Cameron (Secretary)
Telephone: (02) 6286 2966
WWW: http://www.spirit.net.au/~jamesm/CAUS/
Meeting times: 2nd Thursday of the month from 8pm.
Places: Woden Town Centre Library (Entry – The Elm Cafe).
Address: Canberra Amiga Users Society PO Box 596, Canberra ACT, 2601, Australia.

XCAD User
Location: N Ireland
Contact: Tony McGartland
Telephone: 01662 250320 (after 6pm)
Meeting Times/Places: TBA
Address: 11 Lammy Drive, Omagh, Co Tyrone BT78 5JB

ICPUG SE Computer Club
Location: Biggin Hill, Kent
Contact: Len Beard
Telephone: 01689 813 616
Meeting times: Thursdays 8-10pm
Places: Biggin Hill (phone for details).
Address: 56 Rookesly Rd, Orpington, Kent. BR5 4HJ

Colchester Amiga Forum
Location: Colchester, Essex
Contact: Patrick Mead
Telephone: 01206 212 864 (Mon-Fri
Email: pjmead@Hotmail
Meeting Times/Places: TBA
Address:9 Windmill Ct, Copford, Colchester, Essex. CO6 1LH

Deal Amiga Club
Location: Deal, Kent
Contact: John Worthington
Telephone: 01304 367 992
Meeting times: 7pm Fridays.
Places: St John Ambulance Hall, Mill Hill, Deal, Kent.
Address: 100 Trinity Place, Deal, Kent

Amiga Service
Location: Charleroi, Belgium
Contact: Hoet Raphael
Telephone: 003271 458 244 (9am-6pm)
Meeting times/places: TBA
Address: Rue Du Nord 93, 6180 Courcelles, Belgium

Extreme Coders
Location: Sheffield
Contact: Mark Johnston
Telephone: N/A
Meeting Times/Places: Contact for details
Address: 1st Floor, 145 Upperthorpe Rd, Upperthorpe, Sheffield. S6 3EB

Stoke Amiga User Group
Location: Stoke on Trent, Staffs
Contact: Paul Shelley
Telephone: 01782 833 219
Meeting Times: 7.30pm Wednesdays
Places: Jester Public House, Biddulph Rd
Address: 19 Houldsworth Drive, Fegg Hayes, Stoke on Trent, Staffs. ST6 6TG

Amiga Falcons
Location: Malmo, Sweden
Contact: Carl-Johan Rudnert
Telephone: +46 40 932212
WWW: http://www.algonet.se/~mcisaac/amiga
Address: Amiga Falcons, c/o Carl-Johan Rudnert, Veberodsgatan 9, SE-212 28 Malmo SWEDEN

Finnish Amiga Users Group
Location: Finland
Contact: Janne Siren
WWW: http://batman.jytol.fi/~saku/
Address: Janne Siren Oravamaentie 2 F 17 02750 Espoo. FINLAND

Amiga Computer Enthusiasts of Elkhart, Indiana
Location: Northern Indiana, USA
Contact: Gregory Donner
Telephone: (219) 875-8593 (after 5pm)
WWW: www.cyberlinkinc.com/gdonner/ace.htm
Meeting times: Second Saturday of the month
Places: 26728 Hampton Woods Dr., Elkhart, IN 46514
Address: 60300 Pembrook Lane, Elkhart, IN 46517-9167. USA

Photogenics & ImageFX Users
Location: Stanford-Le-Hope, Essex
Contact: Spencer
Telephone: 01375 644614 (9am-9pm)
WWW: http://web.ukonline.co.uk/spencer.jarvis/contents.html
Meeting times/Places:TBA
Address: 44 Brampton close, Corringham Stanford-le-Hope, Essex. SS17 7NR

No Specific Name
Location: Greenford Community Centre, London
Contact: Richard Chapman
Telephone: 0181 998 8599 5pm-8pm week, all day at weekends
Meeting times: 7pm-10pm Thurs
Place: Greenford Community Centre
Address: 96 Meadvale Road, Ealing, London, W5 1NR.

AmyTech Amiga Users Group
Location: Dayton Area, Ohio. USA
Contact: John Feigleson
Telephone: (937)667-9541 After 6pm EST
WWW: www.coax.net/people/erics/Amitech.htm
Meeting time: 3rd Saturday of the month – 1:30pm
Places:Huber Heights Library
Address: AmyTech, P.O. Box 292684 Kettering, OH. 45429-0684

South West Amiga Group
Location: South West England
Contact: Andy Mills
Telephone: 01275 830703 (7-10.30pm weekdays, anytime weekends (within reason))
WWW: http://www.wharne.u-
Meeting Times/Places: TBA (likely to be Bristol/Bath area)
Other: Please contact for further details
Address: 51 Wharnecliffe Gardens, Whitchurch, Bristol. BS14 9NF

Tuggerah Lakes Computer Users Group
Location: Central Coast, NSW. Australia
Contact: Darrell Keirnan
Meeting Times: 1st & 3rd Thursday

of every Month
Places: Berkeley Vale Public School
7.00pm
Address: PO Box 659, Toukley. NSW. Australia 2263

Tasmanian Commodore Users Association Inc
Location: Hobart, Australia
Contact: Eric Fillisch
Telephone: (018) 120 787
Meeting times: 7:30-9:30pm, 3rd Wednesday of the month
Places: Contact for address
Address: GPO Box 673, Hobart GPO TAS 7001

University Place Commodore Home Users Group
Location: Tacoma, Washington USA
Contact: Jim McFarland
Telephone: (253) 265-3478 evenings
WWW: http://www.nwlink.com/~red-beard/upchug/
Meeting times: 4th Thursday evening of each month
Places: Fircrest Community Center, Tacoma, WA
Address: PO Box 11191, Tacoma, WA 98411-0191. USA

R.A.V.A.
Location: Alkmaar, the Netherlands
Contact: Roland de Herder
Telephone: Wanna call international? Ask me for my number.
WWW: http://www.cybercomm.nl/~macron/rava.html
Meeting times: 12 times a year
Places: Alkmaar
Address: R. de Herder, Ewislaan 35 1852 GM Heiloo, The Netherlands

Virus Help Team – Norway
Location: Norway
Contact: Helge Syre
Telephone: +4790175626
WWW: http://home.sol.no/~syre
Address: Roeyrvikvegen 40 N-4280 SKUDENESHAVN

CWCCC
Location: West Midlands
Contact: Luke Stowe
Telephone: 0966 467596 (after 10am)
WWW: None yet
Meeting times: 8pm-11pm
Places: Earlsdon Methodist Church
Address: 9 Trossachs Rd, Mount Nod, Coventry, CV5 7BJ

Amigart
Location: Istanbul
Contact: Guvenc KAPLAN
Telephone: 00902163020915
WWW: http://www.medyatext.com.tr/amigart
Meeting times: Two a month
Places: Anywhere
Address: Ortabahar sok. No:1 Hayat apt. d:2, 81080 Goztepe-Istanbul Turkey

Commodore Computer User Group Queensland
Location: Brisbane, Australia
Contact: Ronny Blake
Telephone: (07)32871790
WWW: http:www.powerup.com.au/~ rastlin
Meeting times: 1st Tues of month, 7–9pm & 2nd Sun of month 12pm to 4pm
Places: St Laurence's College, 82 Stephens Rd, S Brisbane. Qld.
Address: 3 Conoble Court, Eagleby, Gold Coast, Queensland, 4207. Aust

Ayrshire Amiga Society
Location: Irvine, Ayrshire, Scotland
Contact: Maitland or Dale
Telephone: 01292 267959 or 01294 275535
Meeting times: Wednesdays
Places: Annick Community Centre, Irvine.
Address: 49 Belmont Road, Ayr Scotland. KA7 2PE

West London Computer Club
Location: West London
Contact: Alan Paynter
Telephone: 0181-932-1856
Meeting times: 1st and 3rd Tues of month
Places: Duke Of York Public House
Address: 19 Harlech Tower, Park Rd East, Acton, London, W3 8TZ

Dublin Amiga Users Telephone Helpline
Location: Dublin, Ireland
Contact: Eddie McGrane
Telephone: +353-01-6235903
WWW: http://www.ireland.amiga.org/helpline.html
Meeting times: Anytime (24 hrs.)
Address: 27 St. Finians Green, Lucan, Co. Dublin, Eire

Central Arkansas Amiga Users Group
Location: Little Rock, Arkansas
Contact: Tim Grooms
Telephone: 501-851-7418
WWW: http://www.concentric.net/c aaug.html
Meeting Times/Places: Monthly TBA
Address: 14 Hickory Lane, Maumelle, AR 72113. USA

Stoneybridge BBS
Location: Dorset, UK.
Contact: Ozz
Telephone: 01202 679158 (10:30pm-6am GMT)
Address: 50 Junction Rd, Hamworthy, Poole, Dorset. (c/o NBI.UK.)

Amiga User Group of Western Australia
Location: Perth, Western Australia
Contact: Arthur Rutland
Telephone: 08 93641717
Meeting times: 2nd Tues of month at 7pm
Places: Curtin University
Address: 31 Chaffers St, Morley Western Australia, 6062

Amiga Computer Group
Location: Umeå, Sweden
Contact: Martin Sahlén
Telephone: +46-[0]90-24816 (24 hrs)
WWW: http://www.amiga-cg.se
Meeting times: Tuesdays 19:00
Places: Kafé Station, Umeå
Address: Skolgatan 14, SE-903 22 UMEÅ. Sweden

Huddersfield Amiga Users
Location: Huddersfield, W Yorks
Contact: Geoff Milnes
Telephone: 01484 543534
WWW: http://www.geemil.demon.co.uk
Meeting times: 7.30pm onwards
Places: Commercial Inn, Market St, Paddock Huddersfield.
Address: 6 Ochrewell Avenue, Deighton, Huddersfield, W Yorks.

Highland Amiga User Group
Location: Highlands, Scotland
Contact: Tommy MacDonald
Telephone: 01667 404757 Anytime
WWW: http://azone.prohosting.com
Meeting Times/Places: TBA
Address: 7 County Cottages, Piperhill, NAIRN, Scotland. IV12 5SE

Team Amiga
Location: Worldwide
Contact: Gary Peake
Telephone: 1 281 350 2194
WWW: http://www.wans.net/~gpeake/links.html
Meeting times: Daily
Places: All Nets and IRC
Address: 19723 Teller Blvd Spring, Texas USA 77388

Knox Computer Club
Location: Galesburg, IL. USA
Contact: Mitch Durdle
WWW: www.galesburg.net/~kcc
Meeting times: First Tuesday of Month 7pm
Places: 695 N Kellogg Galesburg, IL (in the auditorium)
Address: Knox Computer Club 1003 East Fifth Ave. Monmouth, IL 61462 USA

AmigaTCS
Location: Columbia Missouri
Contact: Terry Booher
Telephone: (573) 817 2948
WWW: coming soon!
Meeting times: 7pm 2nd tues of month
Places: TBA
Address: 115 West Phyllis Avenue Columbia MO, 65202 USA

South West Amiga Group – Sydney (SWAGS)
Location: Campbelltown, Sydney, Australia
Contact: Mark Vine
Telephone: (02)46311801 After 7pm
WWW: None yet
Meeting times: 7pm-10pm 2nd & 4th Wed of every month
Places: Airds Community Centre, Riverside Dr, Airds
Address: 11 Kennedy Grove, Appin, N.S.W. Australia 2560

Computer club Aktief
Location: Lelystad, the Netherlands
Contact: Ji Yong Dijkhuis
Telephone: +31(0)320 241741 (not after 23:00 CET)
WWW: http://mcs.nl/aktief/amiga/amiga.html
Meeting times: Every monday 19:30 till 23:00
Places: Buurthuis de Krakeling (same as the postal address)
Address: Computer Club Aktief p/a Buurthuis de Krakeling Fjord 155 8224 DJ Lelystad. The Netherlands

Medway & Maidstone Amiga Collective
Location: Medway & Maidstone
Contact: David Prudence
Telephone: 0961 809466
Meeting times/places: TBA (phone for details)
Address: 34, Norman Rd, Snodland, Kent ME6 5JD

Send this form to: User Groups; CU Amiga, 37-39 Milharbour, Isle of Dogs, London, E14 9TZ.

Alternatively, fax it to: 0171 972 6755, or use the online version of the form which can be accessed from our website at: www.cu.amiga.co.uk This service is completely free of charge.

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Tel: ____________________

Postal Address: ____________________

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Meeting Times/Places:

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Web site: ____________________

Contact name: ____________________

Preferred contact method.(please tick)

E-mail❑ Phone❑ Post❑

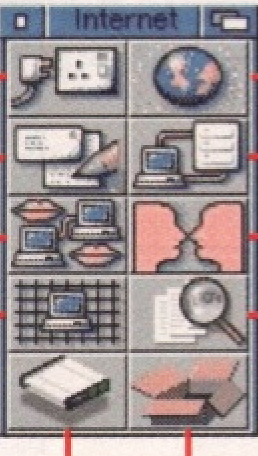
CU AMIGA MAGAZINE

All You Need For Internet And Comms!

netconnect v2 £59.95

NetConnect v2 is the easiest and most comprehensive Internet compilation designed to enable any Amiga user, from novice to expert level, to get onto and use the Internet. Based around 11 commercial programs (including the Contact Manager), and worth over £150 if bought separately, you are given all you will need to get the most from the Internet. By using the new Genesis Wizard, a user should be able connect to the Internet in a matter of minutes. Ideal for both an Internet or local area network connection.

11 Commercial Programs within NetConnect v2!



AMITCP-GENESIS
NetConnect v2 users will be the first people to use this new TCP stack! Based on AmiTCP Pro, we have added a number of changes - new Wizard, MUI based dialler, multi-user support, 'events' control, status window (time on 'net, connection speed), new prefs.

MICRODOT-II
A superb combined email and newsreader within one GUI! Contains all the major features you would expect - MIME attachments, support for POP3/APOP, search function, multiple signatures, multiple user support, Arexx port etc.

AMIRC
Chat online with friends about topics, join conferences, organise mass meetings. The IRC is one of the most addictive elements of the Internet - AmIRC is the best Amiga IRC client.

AMTELNET
Telnet into remote computers (from anywhere in the world) - edit files on a computer in Germany from your Amiga, maintain directories for your web pages, check the status of the network, play online games.

AMTERM
AmTerm is a communications package which allows you to connect to a BBS, to another user (direct link), transfer files via a serial connection (Amiga<>Amiga, Amiga<>PC etc).

VOYAGER-NG
Voted the best Amiga web browser by CU Amiga - supports SSL for securing ordering, HTTP 1.1 (for the fastest web access) fastmem AGA support (use fast mem to store images) and very soon JAVA™, Javascript and AGA fastmem support!

AMFTP
AmFTP is the ultimate Amiga FTP client. Download/upload programs from any FTP site, also supports ADT to allow you to download the latest files from the Aminet and Archie to search FTP sites for files.

AMTALK
A direct chat client for the Amiga. Acts as an online answerphone service for people to leave messages. You can talk directly 'realtime' to friends on the Internet.

NETINFO
NetInfo is a cool tool for analysing the network and the people connected to it - 'finger' your friends to see if they are online, 'ping' servers to find the response speed.

X-ARC
X-Arc is the Amiga's answer to WinZIP™ - automatically decode LHA/LZX/ZIP files, edit the contents of these archives, create your own archives. Full integrates with NetConnect v2!

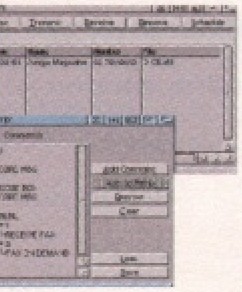
Plus much more..

- **Setup Wizard** - makes configuring your ISP a doddle. Choose your modem, enter some user details and then the rest of the process is completely automatic! Easy setup of more than one network interface - use more than one ISP or setup a Local Area Network (for the Siamese).
- **MIME Prefs** - Central MIME prefs interface means that you only need to setup file types once with on nice interface! This saves masses of time and effort (especially for beginners).
- **Control Manager** - A central control manager that allows you to store your favourite web and ftp sites, IRC servers/channels, friends, email addresses, fax numbers and then use them within various NetConnect modules - Voyager, Microdot-II, AmFTP and AmIRC! Also compatible with STFax Pro.
- **Multi-User System** - Use Genesis/NetConnect with more than one user (a family) and log in on startup, use your own preferences, your own account(s) within Microdot-II etc.
- **Programs are now keyfile based** (can be used with any TCP stack - Miami etc)
- **Extras pre-configured**: MIME types (CD only), datatypes (CD Only), online help files etc
- **Dock bar** - allows you to create multiple dock bars with point and click ease - just drag the icons you have created into the icon bar! NetConnect v2 is pre-setup with its own icon bar for ease of use.

NetConnect v2 CD [contains many extras: datatypes, MIME types (for www browsing) and much more]	£59.95
NetConnect v2 Floppy Disks [only contains the core programs & online help documents]	£59.95
NetConnect v2 Upgrade from v1 [registered NetConnect v1 users only]	£call!

stfax professional (new version 3.2) £29.95

STFax Professional is new commercial fax and voice mail program which enables you to use your Amiga as a digital answer machine, send and receive faxes from most Amiga programs and setup a mini-BBS. Ever wondered who companies manage to create their voice based operator system? You can do this at home! 'Press one to leave a message for Mike or press two to leave a message for Sue'. STFax is also ideal for the small business owner: setup a fax on demand service (so customers can receive information about your products 24 hours a day), advanced message box system for the employee's, log callers via caller-ID, control other programs etc. New v3.2 offers you even more powerful voice features, including:

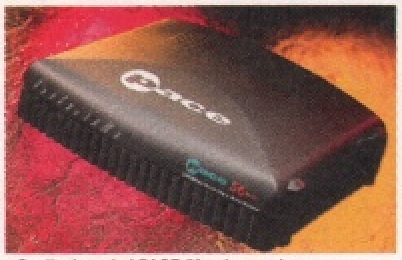


- **Full Fax Features:**
  - **Full Fax/Modem Class (1, 2, 2.0) Support**
  - **Phonebook** - store all your fax and telephone numbers
  - **Scheduler** - store fax messages to send at specified times
  - **Broadcasting** - send one fax to more than one recipient
  - **Reports** - quickly see when a fax was sent and received
  - **Printer Driver** - redirect all print-outs to a fax file (print from Wordworth, Pagestream, Final Writer, a text editor etc!)
  - **Fax Viewer** - view outgoing/incoming fax messages
  - **Fax Forward** - forward faxes to another machine
- **Advanced Voice Features:**
  - **Advanced Digital Answer Machine** - unlimited storage space
  - **Multiple-User** - assign voiceboxes to individual users. A family could have a voicebox per member and receive their own voice messages.
  - **Advanced Voice Scripting** - create your own voice network/fax on demand service
  - **Use the Modem as a Telephone** - make and receive calls via STFax Pro and your modem
  - **Remote Access** - listen to your messages from an external source. ie. from another phone or even country!
  - **Caller-ID** - see who is calling you (number and name of caller), choose to intercept the call or allow STFax to auto-answer, see who has left a message and 'reply' to the caller via the modem, attach a personal greeting to a specific phone number and only that person hears the message.
  - **External Program Control** - start an arexx script when an incoming call is detected or when the caller has hungup and control other programs. A music player could pause for an incoming call and then continue when call has ended.
  - **Call Screening** - blacklist phone numbers. Sick of sales people calling after 6pm? Nuisance callers? Blacklist their numbers (you can even blacklist 'withheld', 'unavailable' and 'international' numbers) so STFax either ignores their call or simply plays a custom greeting "sorry, this household does not welcome cold sale calls"! You can also set priorities per caller - STFax notices an important caller, it plays a warning sound.

high quality modems from..£69.95

Choose from three high-quality **branded** modems - the top of the range, award winning PACE 56K, the new PACE 'Solo' 56K or the middle of the range Dynalink modem. Both come with a five year warranty. The PACE modem also ships with free lifetime technical support, UK caller ID (only modem available which supports this), a superb speakerphone, conferencing feature, volume slider, easy to understand LED's and non-technical, easy to read documentation. The PACE is currently the best 56K modem you can buy, virtually winning every single modem review in the PC, Internet and Mac press. All PACE 56K modems are now v90 shipping ready - the agreed standard for 56K connectivity. Why not treat yourself to the brand new PACE 'Solo'? The 'Solo' be used standalone from your Amiga. Want to go on holiday but need to receive fax and voice messages, but don't want to leave your Amiga running? The 'Solo' is the answer.

Pace External 56K Modem



- Quality branded PACE 56 voice modem
- v90 ready (new 56K standard)
- 5 year warranty, life time free technical support
- 56000 bps DATA/FAX/VOICE modem - true v34+ Throughput to 115,200 (230,400 for internal) BPS
- Group 3, Class 1 send/receive FAX (14.4)
- V.80 (video conferencing) capable
- Call Discrimination
- UK Caller ID (unique to PACE modems)
- 10 LED's for full status monitoring
- Analogue Simultaneous voice and data (A.S.V.D.)
- Speakerphone for hands-free operation
- Mute button for secrecy
- Upgradable ROM chip
- On/Off switch to rear of unit
- Volume slider for speakerphone control
- Includes headphones/microphones - voice control
- Serial cable included (with 9 & 25pin connectors)

Pace 'Solo' 56K Modem



The PACE 'Solo' 56K modem replaces your existing fax, answermachine and modem. It can work independently from your Amiga (so you can turn your computer off to receive messages, if you prefer).
It contains the features listed to the left and includes:
- Full specification fax/voice answer machine with message replay, time stamping, remote retrieval of messages all operational in stand-alone mode.
- Stored messages accompanied by time, date and caller-id where applicable.
- On board memory stores any combination of approximately 30 minutes of speech or 30 pages of faxes.
- Group 3, Class 1 and Class 2 FAX (14.4)
- 1 expansion bay with 2 sockets for flash memory expansion modules.
- Memory expansion options upto 32Mbits.
- 5 backlit function keys, 11 function keys

PLEASE NOTE: PACE 'Solo' modem available 18th May. Limited UK stock, order early to avoid dissapointment.

Dynalink 33.6K External Voice/Fax/Data Modem	£69.95
Dynalink 56K External Voice/Fax/Data Modem	£89.95
PACE 56K External Voice/Fax/Data Modem	£129.95
PACE 'Solo' 56K External Voice/Fax/Data Modem	£189.95

modem pack options from..£79.95

Various money saving packs are available. These are all based on the Dynalink 56K modem. Packs based on the 33.6K or PACE 56K or PACE 'Solo' 56K modem available.

Code	Pack Contents	£ Prices
PK01	56K Modem & STFax	£ 99.95
PK02	56K Modem & NetConnect	£119.95
PK03	56K Modem & NetConnect & STFax	£129.95
PK04	56K Modem & NetConnect & Hypercom1 & STFax	£164.95
PK05	56K Modem & NetConnect & Hypercom3Z & STFax	£189.95

DEDUCT £20 for a Dynalink 33.6K Modem (instead of the Dynalink 56K)
ADD £40 for a PACE 56K Modem (instead of the Dynalink 56K)
ADD £100 for a PACE 'Solo' 56K Modem (instead of the Dynalink 56K)
- All packs come with one month free connection to Demon Internet and/or UK Online
- Choose between the CD or Floppy disk version of NetConnect with your modem pack

miscellaneous

	By Disk	By EMail
Miami - TCP/IP Stack for the Amiga	£28.00	£26.00
Voyager Next Generation	£22.00	£20.00
Microdot-II	£20.00	£18.00
AmIRC	£20.00	£18.00
AmFTP	£20.00	£18.00
AmTalk	£17.00	£15.00
X-Arc	£14.00	£12.00
AmTelnet + AmTerm Package Deal	£20.00	£18.00

- 5% Discount when 2-4 Vapor products are bought, 10% Discount for 5+

high speed serial cards (new models!) from..£44.95

The *Hypercom* range of high-speed serial cards offer your Amiga the fastest connection to the Internet, for comms and fax transfers. Available for the Amiga 1200, A1200 Towers and Zorro-II/III based machines (Zorro version suitable for A1500/2/3/4000 or a A1200 tower).

Model	Machine	Specifications	Price
Hypercom1	A1200	1 x 460,800bps highspeed buffered serial port	£39.95
Hypercom3	A1200T	2 x 460,800bps highspeed buffered serial, 1 x 500K bytes/sec parallel port	£79.95
Hypercom3Z	Zorro-2/3	2 x 460,800bps highspeed buffered serial, 1 x 500K bytes/sec parallel port	£74.95
Hypercom4	Zorro-2/3	4 x 460,800bps highspeed buffered serial ports	£89.95

internet informer/extra information

Still unsure about connecting to the Internet? Want more information? Confused by all the acronyms such as 'ISDN'? Confused about the costs? Wondering whether your Amiga can access the Internet? No need to worry any longer - we have released issue 2 of our 'Internet Informer' for Amiga users. A leaflet that offers you all the information you require in order to get your Amiga onto the Internet. Modem choices, software that is available, service providers for the Amiga, questions and answers. It also contains information about NetConnect and what we can do to get you onto the Internet. For your free copy, call us or write to us.

ACTIVE

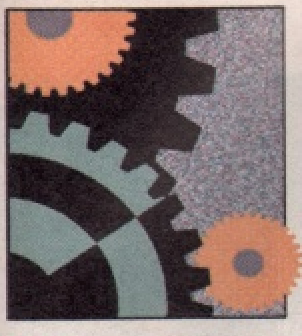
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Make cheques/P.O.'s payable to Active Technologies and send to the address listed opposite. We can accept credit or debit card orders. For any additional information call us!

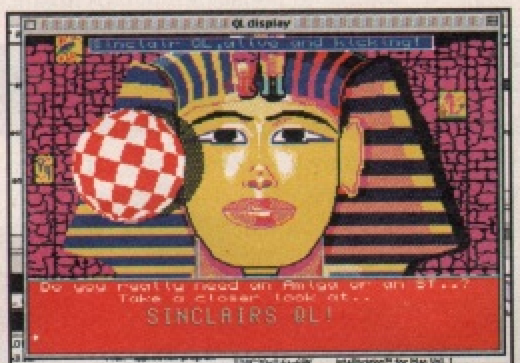
Amiga Workshop



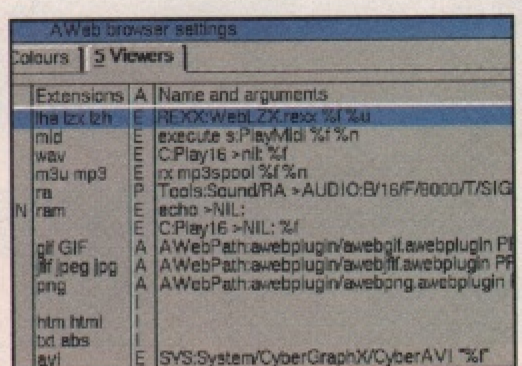
We've got two brand new columns starting this month. Andrew Korns gets arty and Jason Compton investigates emulation.



Digital Art p76



Emulation p82



Wired World p86

Regulars

Digital Art

PART 1

Our chin-carressing art Guru, Andrew Korn, takes great pleasure in introducing a brand new tutorial series on the limitless potential of digital art and illustration.

We've come a long way since primitive man first learned to dip a twig in animal blood and trace lines on the cave wall with it. The technology of today is unimaginably superior, but the uses we put it to never change; in another 50,000 years whatever technology we may have developed will for sure be being used to make pointless but pleasing images. We got the camera, cinema, and now the computer. Each new process has opened more doors, and computers the most. In the days of twigs and animal blood, the ability to create the form of an animal on the cave wall was a skill so rare it was considered magic; with the advent of computers, the facility to put flesh on the imagination is at everyone's finger tips.

The Amiga is a superb machine for computer art. Although 3D work has stolen all the glory, with Amigas having been used in Star trek, Babylon 5, Jurassic Park and others, slow Amiga CPUs have seen us left behind. 2D art, however, is a different story, and it is to 2D in all its manifestations we will be turning in this tutorial series. The Amiga set the pace for 2D art with DPaint.



▲ The forthcoming Photogenics Ng from Paul Nolan. If I worked for Adobe, I'd be seriously considering buying this guy out...

Today we have more advanced software like Art Effect, Photogenics, ImageFX, and PPaint, able to solve pretty much any 2D art issue from photographic retouching to producing original artwork.

Be prepared

Before you decide to launch yourself into a career in the digital arts, it is important to make sure that you have an Amiga that is up to the task. You can do a lot on the most basic Amiga, but the more power you give yourself, the more freedom you have, and an ideal 2D art set up is no less powerful than an ideal 3D art set up. If you have an OCS or ECS machine, such as the A2000 or A600, you are going to be seriously limited from the start. If you have Zorro slots get a graphics card, otherwise you will be stuck with low resolutions and few colours.

If you have an AGA machine such as an A1200 or an A4000 you are in a much better position, with higher resolutions and more colours. An extended HAM mode allows you up to 252,000 colours on the screen at any one time, but normal (faster) modes give you a very useable 256. Resolutions of over three quarters of a million pixels are possible, but hard to work with. Super72 screenmode in super high res laced gives you a very nice 800 by 600 (0.48 million pixel) display which is quite workable in 256 colours, while resolutions of 640 by 480 are fine for most on screen images and do not cause AGA undue sweat.

With a native chipset, you are limited by the amount of chip RAM you have. Even on 2MB chip RAM AGA machines, with larger screen sizes you will not have enough spare to open a swap page or scratchpad page. There is only one way around this, and that is to get a graphics card.

Currently graphics cards are available only for Amigas equipped with Zorro slots, although the new Pixel64 card from Ateo is an (untried) alternative, and the promised Cybervision/ Blizzardvision PPC graphics cards are due shortly. With a graphics card, not only does the Chip RAM limitation cease to be an issue, but even higher resolution screen modes (up to 2 million pixels) are possible, and far better colour depth becomes available. 16 bit (65,000 colour) screens move much more smoothly than 16 colour screens do on AGA, and 24 bit (6.7 million colour) screen modes allow you to produce photo realistic imagery.

For doing small graphics, such as web site logos, you can just about get by with 2MB of RAM, as comes with the A1200 as standard. To do more you will need more RAM, and if you are planning on manipulating larger images or using more complex functions in your art package, you'll need a faster CPU as well. Trying to draw on a 256 colour screen is nasty on anything lower that a 50 MHz 68030, while complex image processing just gets better the more horse power you throw at it. If you have less you'd be well advised to upgrade. Go for a 68040

2D or not 2D

2D computer art is not just about drawing pictures. 2D also means designing logos, touching up or compositing photos, generating web site graphics, morphing, reclouring, image manipulation, and so on. Some things require drawing skill, but not all. Scanned photographs can be manipulated by someone who can't draw straight, and a logo designer does not need to know how to draw in proportions. This series will be about using your imagination to create imagery, I am not going to attempt to teach you how to draw. If you want to learn that, I strongly advise an evening course in life drawing.



▲ You can work with 24 bit on AGA, but you don't see exactly what you are getting.

25MHz or better; this has a slower clock than the '030 but is a faster processor overall. The falling cost of '040 cards is making the slower cards a false economy.

Memory is something you can never have enough of. If you need to work with high resolutions imagery, RAM is all important; if you are buying now don't go for less than 16 and preferably 32Mb - again, falling costs make it a false economy to go for less.

Tools of the trade

Exactly what software you need is dependant on what you want to do, but is also a matter of taste. You'll have to find the package that suits you most, but here is an overview of some of the leading packages.

Art Effect (Haage and Partner): The Amiga's homage to Photoshop. Very similar to Adobe's market leader in design, but not as well developed. Very good at natural media.

Draw Studio (LH Publishing): Structured drawing and design package. If you want to do a logo or graphic, this is the best answer.

Image Studio (LH Publishing):



An excellent shareware image processing workhorse. Brilliant for image format translation or simple effects, Arexx batch scripting. A must have for all image artists.

ImageFX 3.0 (Nova Design): Truly awesome graphics processing package. Vast numbers of very tuneable effects and class leading batch facilities. There's nothing quite like Image FX3.0 on any other computer, making it one of the Amiga's killer apps.

Photogenics NG (coming soon): Paul Nolan's new paint package (the name is not yet settled) replaces Photogenics 2, which is no longer available. The original Photogenics was an excellent 24 bit paint package, somewhere between Image FX and PPaint, but suffered a shaky interface. NG has been wowing people at previews, and is touted by some as a real world beater.

PPaint 7.1 (Cloanto): Bitmap paint package in the Deluxe Paint mould. Supports 8 bit colour only, but an excellent working environment for this. Very good for web design, very easy to use.

Well that's my introduction. Next month we'll look at the serious issues of what you can do with your Amiga and how to do it. If there is anything you would want covered, from graphics tablets to logo design to impressionism, write in marking your letter DigitalART or email me at **andrew.korn@ecm.emap.com.** Have fun! ■

Andrew Korn

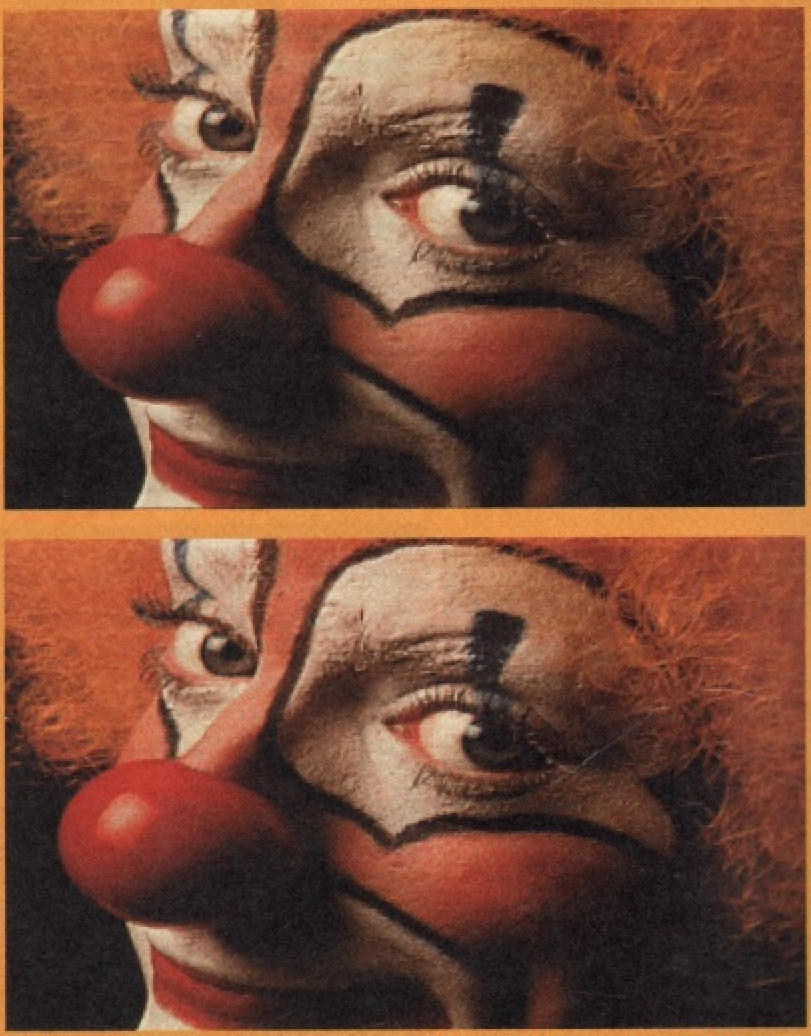
First steps

There's no worse mistake you can make with web graphics than making them too big. They may look amazing, but if no-one can be bothered to wait while they download, your great design will never be seen. Making Images web friendly is a job the Amiga is good at – even our hardcore Macintosh loving designer Seshan M gets us to rework his web images in PPaint.

The most important thing to do is get the file format right. The two most popular file formats on the web are JPEG and GIF. If your image is 24 bit use JPEG, if it is 8 bit (or less) use GIF. For illustration purposes 8 bit is usually enough, so reserve JPEG for higher quality images where you really need them. Try converting 24 bit images to 8 bit and see if you can live with 256 colours.

If you choose JPEG, then the next bit is pretty easy. Use a 24 bit package such as Image Studio, and save the JPEG out. You can set the quality level in a JPEG when you save it, and it is worth experimenting with this. The smaller the number, the smaller the image, the larger the number the higher the quality. Save the file out at 70, 78 and 85% quality and compare the final results. The level of image degradation caused by JPEGing varies from image to image, so use the smallest variant you consider good enough quality for your purpose.

A GIF can be made even smaller. Load your image into PPaint, and select "dithering/floyd-steinberg" (or "dithering/pattern" for more graphic/text oriented images) and "dithering/best quality" from the settings menu. Then go to the colours menu and select "less colours". You can slide the bar gadget to read the number of colours you would like the image reduced to. Try a few different values and save the results out as GIFs. You'll find that images with many different colours lose quality more quickly than those with many similar colours. You will notice that the law of diminishing returns rapidly sets in, with further colour reduction causing increasingly less file size reduction. As with the JPEGs, you'll have to judge the best compromise yourself.



▲ Top is 256 colours, 46.5K JPEG. Bottom is 91 colours, a good compromise and only 29K.

Amiga C Programming

PART 12

The wonderful DataTypes system, and the troubles of programming with little documentation.

This month we're going to look at the powerful DataTypes system that was introduced with the AGA chipset and Workbench 3.0, back when the A4000 was a new machine.

Because DataTypes made their first appearance over five years ago, you'd have thought that there would now be a wealth of documentation on the subject and plenty of official examples and sources.

Unfortunately this is not the case; probably due mainly to the protracted problems with the ownership of the Amiga.

Documentation

One of the most frustrating things (for computer users in general) is having to understand other people's documentation, whether it's for the latest word processor or some aspect of the Operating System.

For ordinary programs, documentation can often legitimately take second place to the user interface, since the user ought to be able to use the program effectively without constant recourse to a manual. But for programming systems, the documentation is critical and even more important than a sensible or intuitive design.

Trial and error (or complete guesswork) are not effective ways of learning how to use an Operating System or some fancy programming library. What a programmer needs is complete documentation and (ideally) numerous examples of each feature.

The Amiga's official documentation comes in the form of the Rom Kernel Reference Manuals (RKRMs), a five volume set covering the Libraries, Includes and Autodocs, Devices, Hardware and a Style Guide. These are published by Addison-Wesley and the latest editions date back to May 1992.

The RKRMs are a vital resource for any real Amiga programmer. They are very well written and extremely useful, and this is especially true of the Libraries edition. However, they only cover Release 37 of the Amiga Operating System (which corresponds to Workbench 2.0).

More 'recent' innovations such as the AGA chipset and the DataTypes system therefore lack any proper RKRM documentation. The only official technical information comes from the 3.1 DevKit (now available on the Amiga Developer's CD).

This comprises a short text file giving a very brief outline of how to use DataTypes and write new ones, and a couple of example programs and DataTypes. This is certainly not adequate for a complete understanding of the system, and only really useful for constructing programs that are practically identical to one of the examples.

DataType

An Amiga system component that can recognise, understand and convert a particular format of data. For example, there are DataTypes for ILBM format images, 8SVX format sounds, AmigaGuide format hypertext and CDXL format movies. The DataTypes system is Object Oriented, with a lot of the common work done by the base classes (ie; the animation, picture, sound and text DataTypes).

Example 1

```
int loadDT(char* filename)
 {
   struct Window* win = getDrawWin();
   Object* dto;
   SetWindowPointer(win, WA_BusyPointer, TRUE,
TAG_DONE);
   if(dto = NewDTObject((APTR)filename,
                        PDTA_Remap, FALSE,
                        TAG_DONE))
   {
     /* ...Render object onto drawing window... */
     /* Throw away DataType object */
     DisposeDTObject(dto);
   }
   else
     printf("Error: could not open DT object\n");
   SetWindowPointer(win, WA_BusyPointer, FALSE,
TAG_DONE);
   return TRUE;
 }
```

Example 2

```
if(IntuitionBase->lib_Version >= 39 &&
   GfxBase->lib_Version >= 39)
{
  /* If the DataTypes library cannot be opened */
  /* we fall back to using IFF */
  if((DataTypesBase = OpenLibrary("datatypes.library",
39)) == NULL)
    printf("Warning: could not open
datatypes.library\n");
}
```

Example 3

```
int useDT()
{
  return DataTypesBase !=
NULL;
}
```

Using DataTypes

The aim for this tutorial is not to bemoan the lack of information, but to attempt to use the wonderfully powerful DataTypes system despite of this. This will make our program a good deal more flexible and usable, by allowing image files in any format supported by DataTypes to be loaded.

The standard DataTypes system includes a DataType for ILBM (IFF) files, but there are many, many more available from the CU Amiga CD and Aminet. The GIF and JPEG DataTypes are probably the most commonly used. So, by using the DataTypes system we'll be able to load ILBM, GIF and JPEG files.

Here's where the problems start. With the IFF library we had pretty clear documentation and examples that showed how to load a picture file. The task was simple and straightforward.

Many of the problems with using DataTypes stem from the fact that

BOOPSI

Basic Object Oriented Programming System for Intuition. A simple, flexible and powerful framework for constructing efficient GUIs. There are several GUI builders and toolkits built around BOOPSI, such as the very popular MUI and ClassAct.

Conditional Compatibility

A technique for ensuring some backwards compatibility while still being able to use new features. When the program is run, a test is performed that decides whether the current system can use the new stuff.

If it can't, then 'fall back' code is executed instead (this is usually less efficient or attractive than the new features). The function of the program is then conditional on the capabilities of the current system. The alternative of just failing to run on older systems obviously gives no backwards compatibility.



Hello World! ▲

the system is very generic and encompasses a number of quite different concepts (images, text, sounds, video, etc). So in some ways, it's unsurprising that it can be very difficult to use DataTypes in any particular way, even the very simple way we want to use it.

Gadgets or BitMaps

At it's core, the DataTypes system is Object Oriented and it works in a very similar to the Amiga's BOOPSI system. We haven't met BOOPSI in these tutorials yet, but that's not something that will stop us using DataTypes.

At the highest level, we can use the DataTypes system to create a kind of gadget from an image file. When this gadget is attached to our drawing window it will render the image. We can then remove the gadget and dispose of it, since all we need is this drawing side-effect.

At a much lower level, we can use the DataTypes system to create a picture object from an image file. This object will render into a BitMap which we can then copy into our window. This method is in essence the same as the way the IFF library is used.

Either way, the general framework we'll use is that shown in Example 1. The "loadDT()" function (in "datatype.c") takes a filename and will render the image in the corresponding file onto the drawing window. The significant thing at this level is the use of the "NewDTObject()" function from the DataTypes library.

Example 4

```
int loadfile(char*
filename)
{
  if(useDT())
    return loadDT(file-
name);
  else
  {
    /* Do old IFF
library stuff */
  }
}
```

DataTypes Library

The first example on the disks ("dt0") adds flesh to this outline. It also implements the necessary support by opening (and closing) the DataTypes library (in "main.c").

This part is more complicated than before because we don't want failure to open this library to be fatal. The DataTypes library is available only in Amiga OS 3.0 (or newer), and we can safely 'fall back' to using the IFF library, albeit with reduced functionality.

Another problem comes from the need to check that the Intuition and Graphics libraries are 'new' enough to work with the DataTypes system (ie; version 39 or greater). Only then should we attempt to initialise the "DataTypesBase" library variable (see the snippet in Example 2).

Example 5

```
struct dtFrameBox dtf;
struct FrameInfo fri;
/* Clear the frame structures */
memset(&dtf, 0, sizeof(struct dtFrameBox));
memset(&fri, 0, sizeof(struct FrameInfo));
/* Initialise DataType method */
dtf.MethodID = DTM_FRAMEBOX;
dtf.dtf_FrameInfo = &fri;
dtf.dtf_ContentsInfo = &fri;
dtf.dtf_SizeFrameInfo = sizeof(struct FrameInfo);
if(DoDTMethodA(dto, NULL, NULL, (Msg)&dtf))
{
   /* Use the information in fri */
}
```

The use of the DataTypes library is conditional on it being successfully opened, and this fact is provided by the "useDT()" function in "datatype.c" (see Example 3). The "loadfile()" function (in "loadsave.c") uses this to decide whether to use the "loadDT()" function or the normal IFF library code (Example 4).

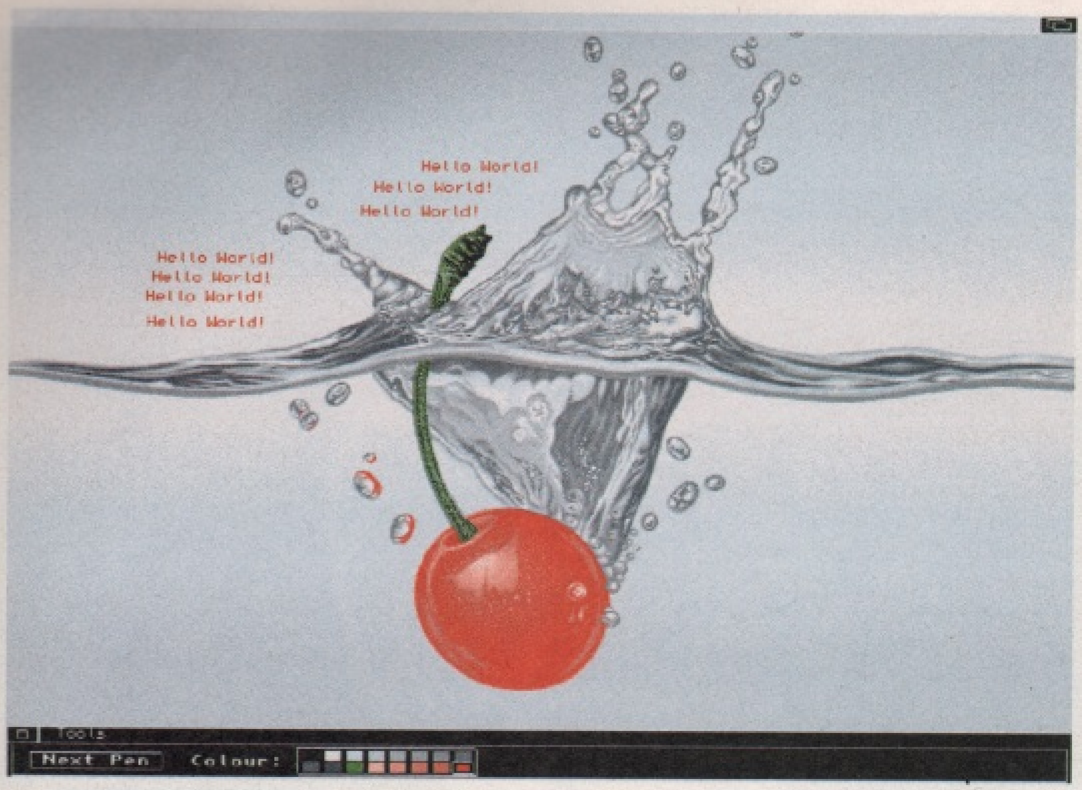
DataType Properties

With the IFF library we had to extract various bits of information about the picture so we could change the screen size, resolution and mode (if necessary).

To do the same kind of thing for a DataType object we need to ask for its Frame Box. The code shown in Example 5 is the documented way of achieving this, and the resultant "struct FrameInfo" contains all sorts of interesting information.

The most useful thing in this structure is the "struct ColorMap", which is supposed to give quite detailed information about the colour requirements of the picture.

Unfortunately, we've now stumbled across a bug in the implementation or documentation of the DataTypes system. The "fri_ColorMap" element is supposed to be a "struct ColorMap*", but in practice the results cannot be validly interpreted as such.



▲ **A GIF image loaded into HelloPainter**

In fact, this pointer value turns out to be identical to the value returned by a "PDTA_CRegs" enquiry (try it out for yourself), which is quite a different object. This is a simple (flat) array of "ULONG" values representing the RGB values of colour pens.

To work round this bug (and to be safe in the future if it gets fixed), we'll ignore most of the information in "fri". Instead, we'll get the "struct BitMapHeader" associated with the picture and ask the object directly for its colour information (via "PDTA_CRegs").

DataType Gadget

Once we've got the details of the picture, we can then change the screen to fit, in much the same way as we did for the code which used the IFF library.

This time, though, we need to be a bit more stringent and force a change if the screen is too small or does not have enough colours. This is because the DataTypes system is not documented to cope with this, like the IFF library was.

Example 6 shows the final code snippet to change the screen colours and render the image. The DataTypes object is added to the window in much the same way as an ordinary gadget. Once refreshed it can be removed, since it has done its job and drawn the picture.

Example 7 shows the function which does the actual translation of the RGB colour table (mentioned above) into pen colours. "SetRGB32()" is basically an enhanced version of the "LoadRGB4()" function which was used in the IFF library code.

DataType BitMap

The second example on the disks ("dt1") is a slightly different way of doing exactly the same thing. This time the DataType object is treated as a source of a BitMap. As well as getting the BitMap from the object (using "GetDTAttrs()"), the code in Example 6 is replaced by that shown in Example 8, which directly writes the BitMap into our drawing window. The "WaitBlit()" call makes sure the copying has finished before the DataType object is freed. But that's not the whole story: the creation of a DataType object does not cause the creation of a completed BitMap, so we must first tell the object to render itself (the "AddDTObject()" did this in the first example).

Example 9 shows the necessary code, which precedes the enquiry for the Frame Box. It's basically the same kind of thing that happens as a result of the "AddDTObject()" call. Try the code without this to see the difference.

Next Month

Try out for yourself some variations on this theme, by maybe allowing the DataType object to remap itself to the current screen colours and depth. The header files in the "DataTypes" directory of "include:" (or equivalent) are a good start point.

Next month we'll look at something that's a bit better behaved and better documented. ■

Jason Hulance

Example 6

```
/* Change screen colours */
setcolours(&(win->WScreen->ViewPort),
           cregs, 1<bmh->bmh_Depth);
/* Set the object's size and position */
SetDTAttrs(dto, NULL, NULL,
           GA_Left,    0,
           GA_Top,     0,
           GA_Width,   win->Width,
           GA_Height,  win->Height,
           TAG_DONE);
/* Add the object to the window */
AddDTObject(win, NULL, dto, -1);
/* Refresh the DataType object */
RefreshDTObjects(dto, win, NULL, NULL);
/* Remove it from the window */
RemoveDTObject(win, dto);
```

Example 7

```
static void setcolours(struct ViewPort* vp,
                       ULONG* cregs, int count)
{
  if(cregs)
  {
    int i;
    for(i = 0; i<count; i++)
    {
      SetRGB32(vp,i,cregs[0],cregs[1],cregs[2]);
      cregs += 3;
    }
  }
}
```

Example 8

```
/* Change screen colours */
setcolours(&(win->WScreen->ViewPort),
           cregs, 1<<bmh->bmh_Depth);
/* Copy the picture to our window */
BltBitMapRastPort(bm, 0, 0,
                  win->RPort, 0, 0,
                  bmh->bmh_Width, bmh->bmh_Height,
0xc0);
WaitBlit();
```

Example 9

```
struct gpLayout gpl;
gpl.MethodID = DTM_PROCLAYOUT;
gpl.gpl_GInfo = NULL;
gpl.gpl_Initial = 1;
if(DoDTMethodA(dto, NULL, NULL, (Msg)&gpl))
{
  /* ...The rest of the rendering code... */
}
```

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SCSI 3 Device Internal Cable	£14
SCSI 7 Device Internal Cable	£17
Micro D Male To Micro D Male	£33
Micro D Male To Centronics Male	£33
25D To Centronics Female	£18
Internal 50 Way SCSI To External	£13
Amiga A600/A1200 2.5" IDE Cable	£10
Dual 3.5" IDE Cable	£10
A600/A1200 2.5" To 3.5" Cable Set	£20

Consumables

Delivery just £2 on small items under £20

Canon

BC01 BJ10/SJ48 Black	£17
BC02 BJ200 Black	£18
BC05 BJC210 Black	£20
BC06K BJC240 Photo Kit	£26
BC06 BJC240 Photo Cart	£20
BC09F BJC240 Fluores.	£26
BC10 BJ30 Head & Ink	£30
BC11 BJ70 Heat & Cart	£32
BC20 BJ4x00 Head&Black	£32
BC21 BJ4000 Head + Inks	£35
BC22 BJC4200 Photo Cart	£27
BC22K BJC4200 Photo Kit	£37
BC29F BJC4200 Fluores.	£32
BCI10 BJ30 Black 3 Pack	£11
BCI11BK BJ70 Black 3 Pk	£9
BCI11C BJ70 Colour 3 Pk	£15
BCI21BK BJC4000 Black	£5
BCI21C BJC4000 Colour	£14
BJI20B BJC6x0 Black	£5
BJI20C BJC6x0 Cyan	£6
BJI20M BJC6x0 Magenta	£6
BJI20Y BJC6x0 Yellow	£6
BJI642 BJ300/330 Black	£11

Refills/Re-Inks

Re-Ink Ribbon Spray	£10
Black Ink Cart Refill 50ml	£8
3 Colour Ink Refill 75ml	£13

Citizen

ABC/Swift Mono Ribbon	£5
ABC/Swift Colour Ribbon	£13
Projet IIc Colour Cart.	£30
Projet IIc Mono Twin Pack	£7
Project IIc Mono + Head	£22
Printiva Black	£6
Printiva Cyan	£6
Printiva Magenta	£6
Printiva Yellow	£6
Printiva Silver	£16

Epson

Styl. Col. 400/600 Black	£19
Styl. Col. 400/600/800 Col	£22
Styl. Col 800/1520 Black	£21

Hewlett Packard

Deskjet 340 Hi-Cap Black	£21
Deskjet 5x0 Series Black	£24
Deskjet 5x0/340C Colour	£26
Deskjet 6x0 Series Black	£24
Deskjet 6x0 Series Colour	£26
Deskjet 8x0 Series Black	£24
Deskjet 8x0 Series Colour	£26

Paper

500 Sheets (Fanfold/Single)	£5
1000 Sheet (Fanfold/Single)	£9
100 Sheets Epson 720dpi	£13
200 Sheet Canon Hi-Res	£25
500 Sheet HP Bright White	£11

3.5" Floppy Disks

Bulk DSDD			
10x	£2.40	100x	£21.00
30x	£6.90	200x	£40.00
50x	£11.00	500x	£90.00
Branded DSDD			
10x	£3.00	100x	£26.00
30x	£8.70	200x	£48.00
50x	£13.50	500x	£110.00
Bulk DSHD			
10x	£2.40	100x	£21.00
30x	£6.90	200x	£40.00
50x	£11.00	500x	£90.00
Branded DSHD			
10x	£3.20	100x	£27.00
30x	£9.30	200x	£50.00
50x	£14.00	500x	£115.00

500 Disk Labels	£7
1000 Disk Labels	£10

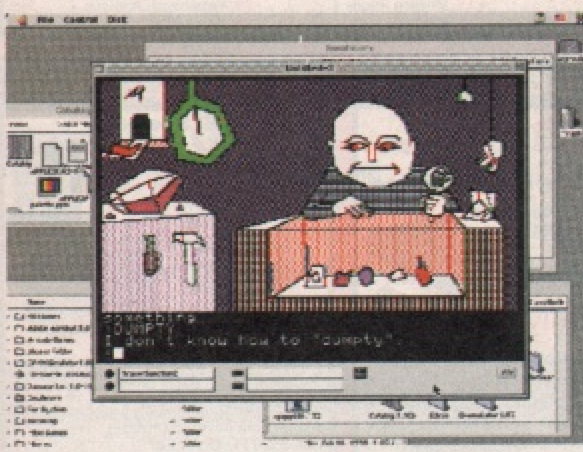
Emulation

PART 1

In April, we tried to convince you that Mac emulation was both easy and a good idea. Aside from the obvious benefits, getting into the Mac realm also opens up access to a whole new set of emulators for other platforms. Jason Compton explains...

Before you write this off as ridiculous, remember that Mac emulation on the Amiga runs at effectively the same speed as a real Mac, especially if you're using a graphics card. So although it may seem silly on the surface, it's actually very reasonable to run an emulator on top of an emulator. In fact, Compton's Rule of Emulation #2 states that no emulation is too outrageous to be attempted.

But why bother? Because as resourceful and talented as the current and past crop of emulation programmers has been on the Amiga, they are only mere mortals. Some projects have never achieved their full potential, while other, more obscure projects have never been attempted. Fortunately, the



▲ The Apple II, a bastion of interactive fiction.

Macintosh community's good fortune is our good fortune.

Bear In Mind

A word of caution to temper that optimism: in programming emulations, speed is king. But since PowerPC speeds have been available to Mac programmers for years now, they are more concerned in getting good speed on mid-range PPC machines, not mid-range 68000 machines. For those emulators which would run brutally slow on even the fastest 68K Mac, typically the programmer has not bothered to compile a 68K-compatible version. Still, there will be some emulators out there not even worth running on our 060 Mac emulations.

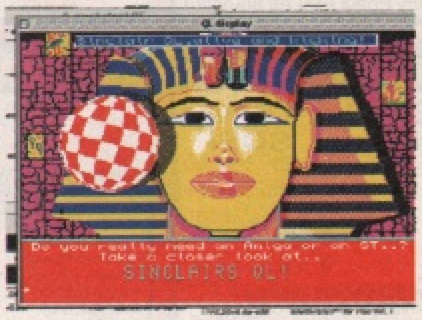
Also, if you don't already have File Buddy on your Mac partition, get it. (It was on the April CUCD and can easily be obtained from Mac shareware sites.) Emulators use disk or ROM images, but because most Mac programs won't look at files that it doesn't see the right file type or creator information for, you may need File Buddy to convince the system that, for example, that big file over there really is an Apple II disk image.

Apple Computers

It seems only fitting that the Mac should have the widest variety of Apple computer emulation. For the Amiga, we have Apple2000 and A II+, which are both competent and very fast (030/25 for full speed) emulations of the Apple II+ computer. But we have no support for Apple IIe machines, nor for the more obscure Apple models.

Apple I (sim6502): This emulator is really just a simulation of the 6502 CPU, because that's basically all the Apple I was – a CPU with some rudimentary I/O. It was enough to put Apple Computer on the map, though, and finance the development of the Apple II series. Interesting for historical value, or if you need a 6502 simulation, but not as good as the real thing since much of the joy of the computers of the mid-70s is in hardware hacking.

Sara (Apple III): The confusing thing about Apple's naming scheme



▲ Nice try, fellas.

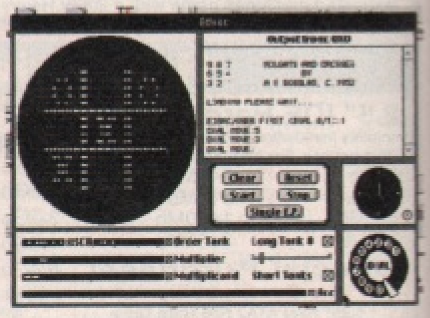
is that they built the Apple III after the II+ but before they built the Apple IIe or IIc. The III, in all its green-screen monochrome glory, was intended to compete head-to-head with the original IBM PC for business market share. It failed. But now that failure is preserved for all time.

Stop The Madness .851 and .881: Comes in two versions because the later version, while more feature-packed, is much less stable. STM doesn't offer a whole lot that isn't covered by the native Amiga emulators except the ability to run it in a windowed environment rather than on a custom 16 color screen. This one is very picky about disk IDs.

Catakig: Recently, the author of this Apple II+/IIe emulator made a 68K port available. It's still in alpha stages, and that means it's quite slow. But the ability to run IIe software (which boast better graphics and more memory than the II+) is there.

IIe: The best of the bunch, IIe combines a very nice emulation window toolbar with reasonable speed on fast 68K systems (040 recommended). This one is crippled shareware, however, with a one-hour timeout and certain features disabled.

vMac: An outgrowth of Amiga emulation mania was vMac, the first Mac emulator for Macs. Truth be told, run-



▲ Proving that computers are good for time-wasting for over 45 years!

ning A-Max on an Amiga 500 would in many ways be a better solution, but not everyone has an old A500 (or A-Max) lying around. It suffers the same sort of speed penalties on a 68K Mac that UAE does on a 68K Amiga – substantial. Mostly a novelty, to explore really old versions of MacOS or to run that neat old program that just won't work on modern Macs (an Amiga PPC port is probably the best solution here).

Atari 800

We now have ACE, which is basically an unfinished Atari 800 emulator for the Amiga. Sometimes it works, sometimes it doesn't. What would really hit the spot would be if Wacke, the PowerMac Atari emulator that grew out of ACE, got ported back to the Amiga. In the meantime a compromise measure, if you have a fast machine, is to run Rainbow. It is unfortunately crippled shareware and can get bogged down on difficult graphical tricks, but is more accurate than ACE.



▲ Thrill to Japanese baseball with iNES!



◀ The emulation.net main menu.

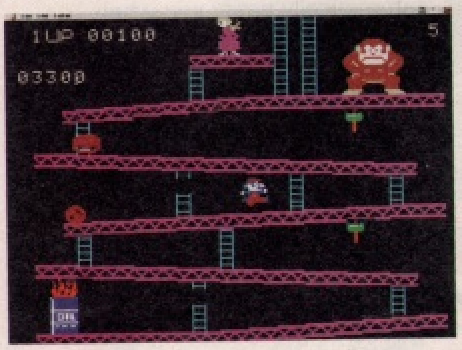


◀ Mortal Kombat, Game Gear style.

Atari ST

I have heard some tales of people who could successfully run the old Atari ST emulators on unexpanded A500s, but I was never one of them myself, and so it took Mac emulation for me to finally be able to emulate an ST!

NoSTalgia: A 68K port of this emulator was available at one point but seems to have been temporarily dropped for speed reasons (even on an 060, it was no better than 70% of an ST – and remember, regular Mac owners don't have 060s). Multiple TOS versions were supported and the emulation seemed fairly complete. A quick e-mail to the author may convince him to recompile a 68K version for the curious (ph.gerin@skynet.be)



▲ Neither Donkey nor Kong shall stop Mario on Colec-ovision.

Sinclair/Spectrums

You can hardly turn around without running into another ZX Spectrum emulation for the Amiga – we're covered in that department. But there are a couple of other series that might strike your fancy. Curiously enough, the ZX81 emulator is PPC-only!

Sam Coupe: Our Techno Tragedies segment on this machine may have dug up some old memories. Explore them fully with this emulator!

Sinclair QL: Sinclair's attempt to get into the bigger stakes computer market being established by Apple, Atari, and of course Commodore. The more functional Q-emuLator (clever, eh?) requires registration to unlock its full potential, but the included demo image does at least establish that the video and sound capabilities seem to be in good order.

Consoles: The console emulation fad got started with Gameboy emulation and has progressed now to the point where people are trying to crack the Playstation nut. Of course, inbetween the two is what we're interested in. We are well-covered on the Gameboy front, but a little help in other departments is appreciated.

iNES: The bad news is that even on the fastest Amiga, iNES won't quite manage full Nintendo frame rate. The good news is that iNES is far, far more compatible with the different types of Nintendo ROM mapping schemes and graphical tricks, so if you want solid graphics and are willing to endure a speed handicap, it's worth checking out.

Sega Game Gear/Master System: For the Amiga, we basically have to deal with two types of Sega emulators – fast but unreliable, stable but slow. The MasterGear emulator for the Mac is a good combination of the two, and it's my preferred way of playing Master System games. Go Shinobi!

ColecoVision: The Coleco was basically a modified MSX, and we do have the excellent fMSX emulation on the Amiga, but it's not quite the same. ColEm does a very good job emulating the machine forever immortalized for Donkey Kong and the Smurf adventure.

Intellivision: The Intellivision still holds the world's record for the most ill-advised controller. The authors of the Intellivision emulator are planning a fully licensed commercial release of an "Intellivision Lives!" CD-ROM but are releasing freeware packs to whet the appetite. Their 68K version at present is rather unplayable, however, but a few kind words of encouragement to optimize their code a smidge could help.

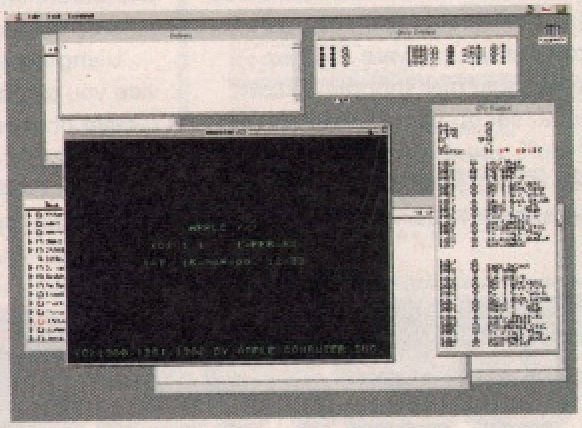
Obscurities: Faded into the depths of time are nearly 50 years of computer development and research. Most architectures were abandoned long ago, but emulation helps keep these machines alive – some in a much more compact form than the original.

CP/M

Back in the days before MS-DOS established ultimate dominance, it went toe-to-toe with its predecessor, CP/M. Computer legend has it that the creator of CP/M could have made a deal with IBM to ship the original PC with CP/M, but he wouldn't play by their rules so they went with Microsoft instead. Often based around Z80s, there's still a ton of application and productivity software out there for CP/M boxes.

CP/M Emulator: Despite being fairly spartan in design, this emulator is pretty easy to use – you can define a Mac folder as a CP/M drive (very handy) and run old CP/M software to your heart's content.

This emulation does not seem to support all of the cursor movement that some programs would expect it to possess however.

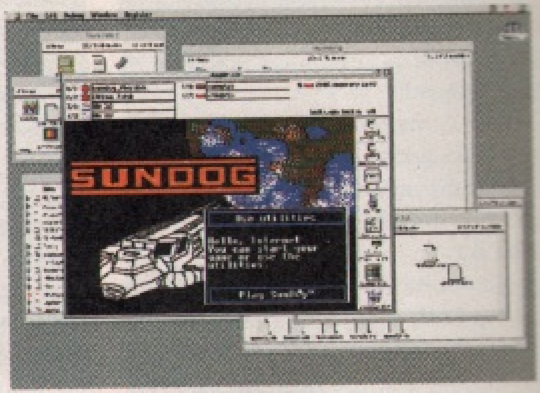


▲ This is about as exciting as the Apple III got.

Edsac

Leave it to a computer scientist to revive one of the very first computing machines in the world.

This 2K monstrosity seems to have been responsible for one of the earliest known instances of playing games on company time – a 1952 tic-tac-toe (noughts and crosses to you) program. The Edsac simulator can't possibly approximate sitting at the console of a computer the size of your house, but it's an interesting insight into what people had to do before the keyboard, the monitor, the disk drive... the included documentation tells you (almost) everything you need to know to become a qualified Edsac programmer–and imagine how good that will look on a resume!



▲ Sundog on IIe, one of the infinite space trading games in the world.

PDP/8

Somewhat less faded into the midsts of time is the PDP series from Digital. There's still a very avid interest in these minicomputers out there, and quite a lot of software can be dug up if you spend a little time looking for it. The original Spacewar was written for the PDP/1, for example. Esoteric? You bet. But still interesting. Remember that rule I mentioned earlier.

Next month, we'll take a look at what else you can do with that Mac emulation, once you can bring yourself to stop playing Donkey Kong. ■

Jason Compton

Resources

There's really only one place you need to look for more Macintosh emulation information: www.emulation.net. It's a one-stop shopping venue for all of the emulators mentioned in this article, and much more.



Surf's Up!

The amphibian-like Neil Bothwick dives down into the deep blue yonder to scoop up some web related news pearls.

NetGod speaks

The mood on the Amiga newsgroups and mailing lists is changing. The healthy optimism of recent years is being replaced by two opposed camps. On the one side are the diehard optimists, who seem to believe the Amiga is capable of toppling Microsoft's world domination. The other, growing, group are descending into desperate pessimism. The lack of any firm news from Amiga International or Amiga Inc is making this steadily worse.

Lack of any definite information has resulted in the optimists seizing on every scrap of information from third party companies as the Amiga's great hope and saviour, while the pessimists are treating each such announcement as more vaporware while there is still nothing definite from the owners of the Amiga.

The Amiga community has been in limbo for five years, from Commodore's death throes, through a year each of waiting for the receivers, Escom, VIScorp and Gateway to do something positive, something new and innovative, something worthy of the Amiga name. We have been supportive, we have been positive, we deserve more.

The World of Amiga is just ten days away as I write this. Will there have been a big announcement as promised, or another delay? By now we will know the answer, and it must be something positive and exciting if the Amiga community is to survive. Gateway commented on the strength of feeling in the Amiga community when they bought into it, they must use and channel this strength to positive ends, not let it waste away. World of Amiga must produce something good if we are to continue, it will only be a start, but it will give the Amiga community what it needs, a sense of purpose and a future.

NetConnect 2 arrives

NetConnect V2 is finally ready for release. After months of delays and frustrated customers, a 'gold' premaster CD has just arrived here. By the time you read this it will be available, probably being launched at the World of Amiga.

Active Technologies have taken advantage of the delays in development of some of the client programs to add more to the package. Genesis is a replacement for AmiTCP and features multi-user support, ideal for people with more than one Internet account, or more than one person using the same account. It now has a connect wizard, to dial into your ISP and retrieve the information needed to establish a working connection.

X-Arc is a new addition for handling various types of file archives via a drag and drop interface. Contact Manager is an address book type program, but for email, www and ftp addresses. NetConnect 2 also includes updated versions of all the other programs in the suite.

A new anti-spam service

Unsolicited junk email probably causes more bad feeling than any other aspect of the Internet, worse than newsgroup spam since it arrives in your private mailbox. While most mail programs allow you to set up filters to kill this sort of stuff, you need to either download it first, or at least scan the messages in your POP3 mailbox, so it still costs you online time. Wirenet Amiga Internet can now offer mail filtering that takes place on the mail server.

By setting up filters via a straightforward web form, you can define addresses or subject to be filtered out and never added to your mailbox. Filtering is not limited to removing spam, you can have important mails forwarded to another address and you can log the receipt of mails for specific filters. Filters can be set up based on any message headers, or the message body and the logging option enables you to test filters before letting them delete mail forever.

Using the additional e-pager service you can be notified by pager of receipt of specific mails.

ICQ – not

Once again, the subject of an Amiga port of ICQ has been raised.

Despite previous statements by Mirabilis that they were interested in an Amiga port, they have now said it will not happen. ICQ is a means of signalling when you are online and detecting when others are online. Running in the background, it can automatically notify you when friends or associates are available.

While it is not the only system of its type, it has become the most popular, and consequently the most useful. There are rumours that the reason for Mirabilis declining an Amiga port was that the group offering to do it has long standing associations with cracking and piracy of commercial software.

If this is true, it is just another chapter in the long history of the damage done to the Amiga by pirates, who generally claim they are providing a 'service' and doing no real harm. ■

Neil Bothwick

Contacts:

Active Technologies
Tel: 01325 460116
WWW: http://www.active-net.co.uk

Wirenet Amiga Internet
Tel: 01925 496482
WWW:http://www.wirenet.co.uk

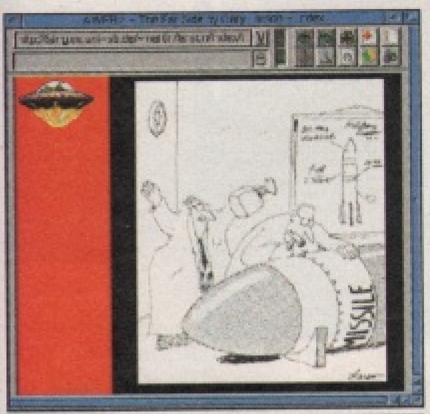
Mirabilis
WWW: http://www.icq.com



Surf of the Month

Neil Bothwick dusts down his board, waxes it up, puts his rubbers on and paddles like a little duck....

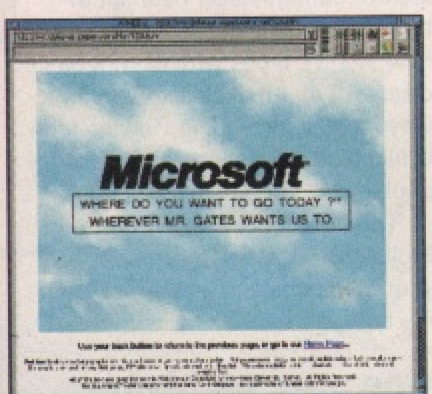
Do you remember the good old days, when Commodore were still developing and selling Amigas, when new software titles were released every week and, best of all, when every issue of CU Amiga contained a Far Side cartoon? You cannot turn the clock back, but there is a comprehensive set of Far Side cartoons on the web. A dedicated fan has scanned and uploaded a complete collection. However, a word of warning, do not download them all at once, get them one at a time, savour them, make them last... and ignore the strange looks you get as you sit glued to your monitor, chuckling to yourself.



The Far Side

Workbench backdrop and icon sets are always a popular item on the CU Amiga CDs, but there is a collection we cannot include due to copyright restrictions, although there's nothing to stop you downloading them yourselves. With an address like http://www.jokewallpaper.com it's clear that these are intended for Windows users, but they are in standard GIF format, so anyone can use them. They are all joke backdrops based on politics, films, television and the computer industry, with the inevitable anti-Microsoft collection.

While many of them have an American bias, you should find something to brighten up your workbench and your day.



Joke Wallpaper



Internet Movie Database

Another frequent request for inclusion on the cover CD is the Internet Movie Database. We are not allowed to include this so you have two choices, either download 60MB+ of data and around 1.5MB of updates each week, or access it via the web interface. The Internet Movie Database is a massive collection of film and television facts, figures and trivia. Everything is cross-referenced so you can look up a director for a list of his films, get cast and crew lists for one of those films, follow a list of other films made by individual cast members and so on. It's very easy to lose track of time and end up following links far away from your original starting point.

If you're having a party and want to offer some different drinks, the IDrink web site has recipes for nearly 4000 alcoholic and non-alcoholic drinks. As well as the usual search features, this site will let you tell it the contents of your fridge/drinks cupboard/carrier bag and list all the drinks you can make with those ingredients. You can customise your own search criteria for use next time you visit the site and you can add your own recipes. If only it had the recipe for a Pan-Galactic Gargleblaster...

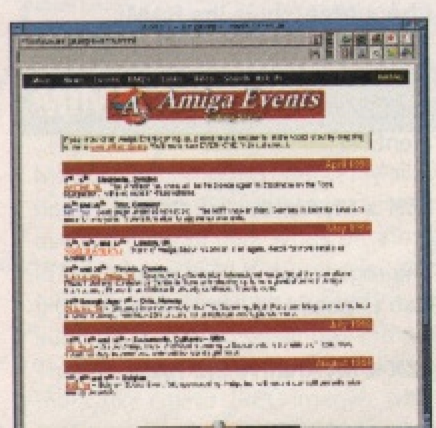
URLs

The Far Side	**http://fsing.ee.uni-sb.de/~martin/larson/index/toc.htm**
Joke Wallpaper	**http://www.jokewallpaper.com**
Internet Movie Database	**http://uk.imdb.com**
IDrink	**http://www.idrink.com**
Amiga Org	**http://www.amiga.org**
C Programming	**http://www.azstarnet.com/~midian/amiga/c.html**
Carl Sassenrath	**http://www.rebol.com**



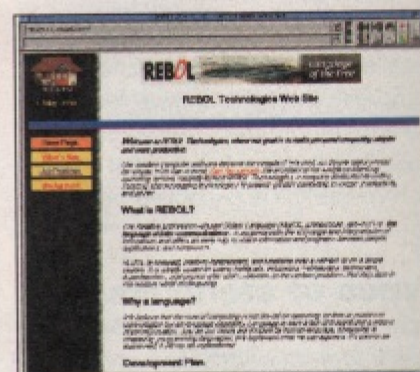
IDrink

Most Amiga owners online know about the Amiga Web Directory and Amiga International sites as sources of information, but there are others. Amiga.org contains news, an events calendar, FAQs, lists of Amiga dealers and user groups, a developers section and a search page. It complements sites like the Amiga Web directory very well.



Amiga Org

If you have been following the C Programming tutorial in CU Amiga you should take a look at Amiga C Programming. This page is "dedicated to assisting Amiga users with learning to program in C" and contains links to a wide range of tutorials, publications, examples, newsgroups and web sites, along with subscription details of relevant mailing lists, including the Amiga C Programming list. It seems to be oriented more towards those who are learning and developing their C skills, rather than the C/C++ gurus.



Rebol

Carl Sassenrath was one of the founding developers of the Amiga operating system, being credited with writing Exec and creating the multitasking capabilities that other platforms have only recently come to know. He actually left Commodore-Amiga shortly after the A1000 was released, although he worked for VIScorp during their ill-fated attempt to buy the Amiga. His current project is a multi-platform language called REBOL, and the parallels with his early work on the Amiga are obvious. He lists the platforms it will run on, with Amiga being at the top of the list. ■

Neil Bothwick

Wired World



As soon as you start downloading files from the Internet, whether you use a web browser, ftp client or email program, you will find yourself having to deal with archives. While archiving usually reduces file sizes, it is not the same as file compression...

A file compressor, like PowerPacker or XPK, will reduce the size of a single file while leaving it in a usable state. PowerPacking a program can reduce it to as little as half its original size, but it will still run from its icon.

On the other hand, an archive is usually a collection of files that have been combined into a single file and compressed. The advantage of this for Internet use is that you can download a complete software installation as a single file, and the compression of the archive reduces the amount of time taken to download. The disadvantage is that this archive has to be unpacked before it can be used.

Types of archivers

Most archivers work in a broadly similar way, they identify commonly repeated patterns and characters and replace them with shorter equivalents.

The two archive formats most used for Amiga files are LhA and LZX. LhA has been the "standard" Amiga archive for many years and is the only one allowed for Aminet uploads,because there is a Unix unpacker for LhA that the server can use to unpack each upload for virus checking. LZX is unique among archive formats in that it originated on the Amiga.

The main difference in the way it works is that it merges files together before beginning compression, this gives significantly better compression, particularly with a number of small files in an archive. LZX is no longer being developed and as a parting gift to Amiga users, the author released the keyfile to Aminet, allowing all users access to the extra compression and features of the registered version. These are the two main archivers used for Amiga files, see the boxout for details of other commonly used formats.

Working with archives

All the archive compression and decompression programs are written to work from a shell, with an often bewildering array of command line options. A command like:

LZX -e -F -r -9 -Qf a ArchiveName ProgramDir/#? ProgramDir.#?

could be used to create an archive. Fortunately, unpacking an archive is much simpler. Open a shell and CD to the directory containing the archive and type:

LhA x MyArchive.lha RAM:

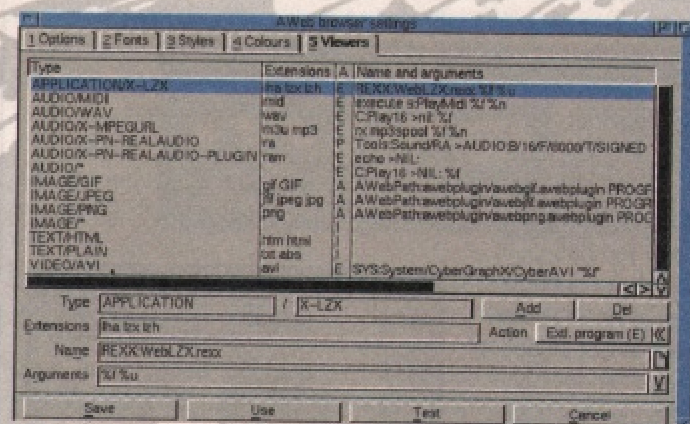
to unpack an LhA archive to RAM: For LZX the command is almost identical

LZX x MyArchive.lzx RAM:

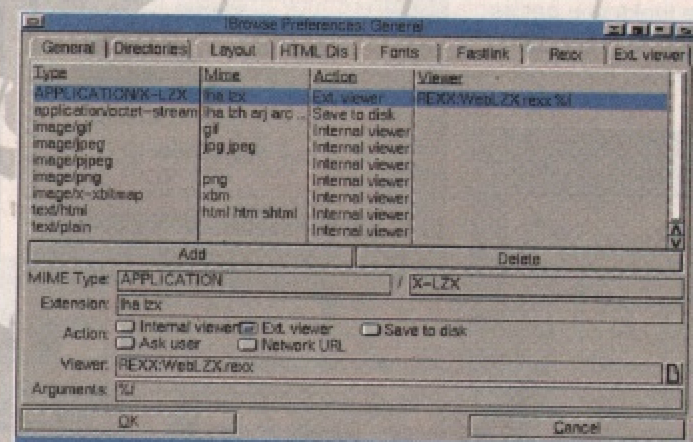
The registered version of LZX will also unpack LhA archives with:

LZX x MyArchive.lha RAM:

The registered version is now freely available, both on Aminet and in the Magazine/WiredWorld directory of this month's CD. Both LhA and LZX will give a list of all their options if you type the name in a shell with no options.



Setting up an LZX MIME type in AWeb.



Setting up an LZX MIME type in IBrowse.

This still involves using a shell, and creating archives is more cumbersome, so there has always been a need for a GUI based approach to archive handling. The util/arc directory of Aminet is full of programs that try to provide easy to use interfaces to archives, some easier to use than others, although they generally rely on you having the original archive program in your C: directory. Some are better than others, and a lot is down to personal preferences, but BurnGUI is a good one to start with.

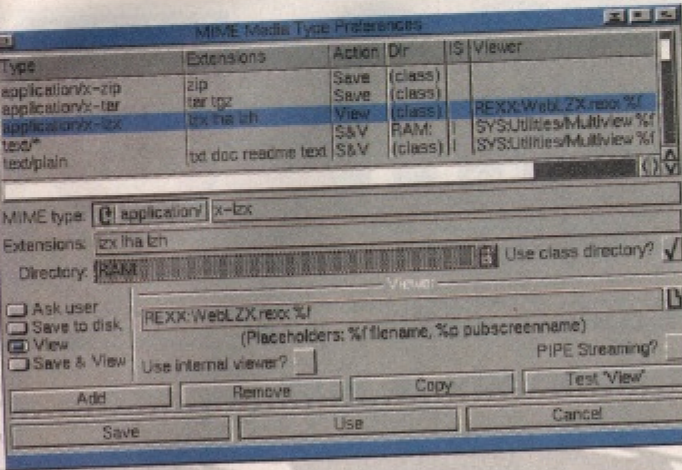
Most directory utilities come set up for basic handling of LhA archives but may need some work to deal with other types. Adding LZX commands is pretty easy, since the commands and arguments are very similar, you should be able to make a copy of whatever LhA command you have and edit it slightly. The later versions of Directory Opus take archive handling a stage further. you only need to double-click on an archive and Opus loads the contents into the window, just as if you had double-clicked on a directory. You can easily copy files to and from this window, adding them to the archive or extracting them from it without having to be concerned with arcane shell commands. You can also unpack a complete archive by dropping it onto another lister.

The latest addition to the range of options for archive handling is the newly-released X-Arc. This handles archive configuration via a set of modules, which should make adding new archive types very easy. It has a clear GUI that makes all operations very intuitive, including viewing individual files within and archive by double-clicking them.

The files can be viewed with Multiview or else you can specify your own choice of viewer for each file type.

One stop archiving

Being able to download an archive, save it and then unpack the saved



▲ **Setting up an LZX MIME type in Voyager.**

file is all very well, but computers are supposed to make life easier for us, so why not do it all in one go?

Some email programs will let you unpack an archive attached to a mail. For instance, Thor displays an icon at the bottom of the mail that you click on to unpack the archive, but there is no such facility built into web browsers. Fortunately, it's fairly easy to add this yourself, thanks to the wonders of MIME types (see boxout). Since you can specify an external program to deal with any type of file, it's simple enough to define a MIME type for LhA and LZX archives and use an ARexx script to automatically unpack these.

The script shown here works with LhA and LZX files with all three Amiga browsers. First you need to save the script to REXX: (there is a copy on the CD) and edit it to set your preferred directories for the unpacked files and for saving the archive. Next set the script bit, either with a directory utility or by using the Protect command in a shell, as in "protect REXX:WebLZX.rexx +s". Now set up a MIME type in your browser, this is done in the Viewer section of AWeb and IBrowse preferences and the MIME Prefs section of Voyager.

Create a MIME Type of APPLICATION/X-LZX (Voyager 2.95 has this defined already) and set the extensions to "lzx lhz lzh" because LZX is capable of handling all three archive types. Select External Viewer and set it to use:

REXX:WebLZX.rexx %f

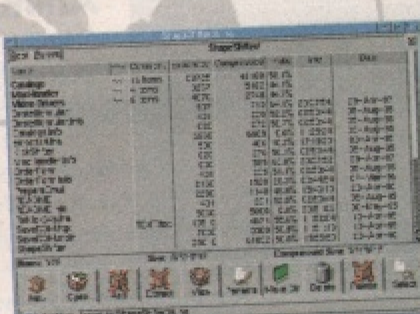
for IBrowse and Voyager, and

REXX:WebLZX.rexx %f %u

for AWeb. The extra %u in AWeb means the script can use the original filename when saving, instead of the temporary filename given by the browsers. Now, whenever you click on a link to an LhA or LZX archive, it will be downloaded, unpacked and saved to your hard drive in one go. This takes place in the background, leaving you free to continue browsing.

You will find some variations on this script to handle other archive types in the Magazine/WiredWorld drawer of this month's cover CD. All that you need to do is set up a MIME Type for each individual archive type. ■

Neil Bothwick



▲ **The new X-Arc, with the latest ShapeShifter archive loaded.**

WebLZX.rexx

```
/* WebLZX.rexx - unpacks LhA and LZX archives straight from the browser
*/

savedir  = 'Downloads:'         /* Set these to the directories you want */
unarcdir = 'Downloads:temp'     /* to use for saved and unpacked
archives */

options results
address command
parse arg filename
filename = strip(filename,'B','"')
parse var filename filename '" "' url .

/* This is needed for Voyager because it doesn't put an */
/* extension on the temporary file */
if pos(substr(filename,length(filename) - 3),'.lha.lzx') = 0 then do
   Voyager = 'YES'
   oldfile = filename
   'rename' filename filename'.lzx'
   filename = filename'.lzx'
   end

/* If the browser has supplied a URL, extract the file name from it */
if url > '' then realname = substr(url,lastpos('/',url) + 1)
/* Otherwise use the temporary file name created by the browser */
else do
   realname = substr(filename,lastpos(':',filename) + 1)
   realname = substr(realname,lastpos('/',realname) + 1)
   end

/* Make sure the destination directory ends in / or : */
if pos(substr(unarcdir,length(unarcdir)),'/:') = 0 then unarcdir = unarcdir'/'

/* Unarchive the file */
'lzx >NIL: -m x' filename unarcdir

/* And save it */
'copy' filename '`RequestFile' savedir 'FILE' realname 'TITLE "Save
archive" SAVEMODE`'
if Voyager = 'YES' then 'rename' filename oldfile
```

Other formats

Apart from the standard Amiga archive formats of LhA and LZX, you may find a few more on your travels around the web.

LZH:
Predecessor of LhA, handled by both LhA/LZX programs.

ZIP:
The main archiver used on PCs, there are both Zip and UnZip programs available. You shouldn't need to create Zip archives unless you want to send files to a PC owner who doesn't have access to LhA.

TGZ:
A combination of two processes. TAR creates an archive without any compression, then GZip is used to compress it. These archives some times have a .tar.gz file name. UnTgz handles both stages of the archive in one go.

Z:
Files with a .Z extension are created with the Unix compress program. They aren't archives as such, containing only a single file, but they can be found in a few places. This is the compression used for the Aminet INDEX files. AmFTP will decompress these automatically, other wise use GZip or uncompress, both on the CD.

MIME Types

MIME (Multipurpose Internet Mail Extensions) was originally designed for describing the format of email message bodies, but is now also used to identify data types on the WWW.

In a browser, the MIME type is used to specify how a particular type of file should be handled. A MIME type consists of a type and a subtype. The type describes the major class of data, like text or image. The subtype is used for a subdivision of the major type into different formats, like GIF or JPEG images. Most binary data is of type APPLICATION and subtype OCTET-STREAM, usually written APPLICATION/OCTET-STREAM which browsers will just save to disk.

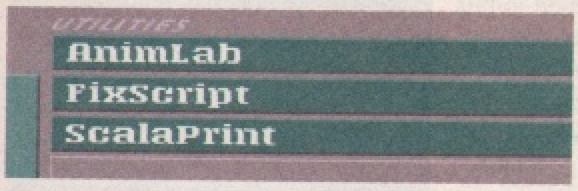
In addition to the officially defined types and subtypes, anyone may define extension MIME types and subtypes. These should start with X- to avoid any clash with future official types, so an archive would be something like APPLICATION/X-ZIP.

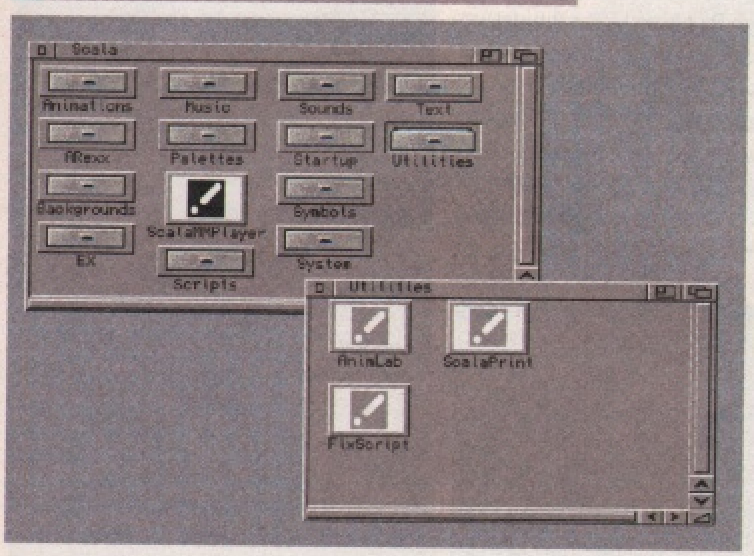
Scala MM300

PART 5

Don't overlook those extra bits and pieces: Scala's utility programs can be exceptionally useful, and John Kennedy is just the chap to prove it.

Scala comes with three extra utility programs to help you create, distribute and maintain your multimedia projects. These utility programs can be found in the utilities/ drawer created by the Scala installation, but they can also be launched from within Scala itself from the System menu.





▲ The Scala utilities can be found in the utilities drawer, or from the System menu.

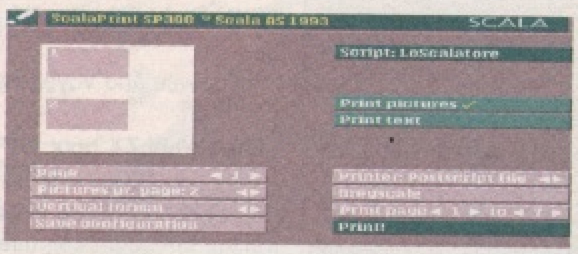
ScalaMMPrint

When designing and writing larger scripts, it can sometimes be useful to have a printed record of the pages which make up the final project. With all the pages in front of you, it can give you a better idea how to order them as well as making it easier when it comes to checking for mistakes.

The print utility can send any Scala script to your printer, either as text or in picture form. Colour, greyscale and black and white output is supported, and Postscript too if you happen to have a compatible printer.

When the utility starts, you'll be asked to select the script you want to print. You can change this at any time by clicking on the button in the top right of the screen. The next decision to make is to pick between text and graphics output. Click on either the "Print Pictures" or "Print Text" button.

If you select to print the pictures, you will then see a display like this:



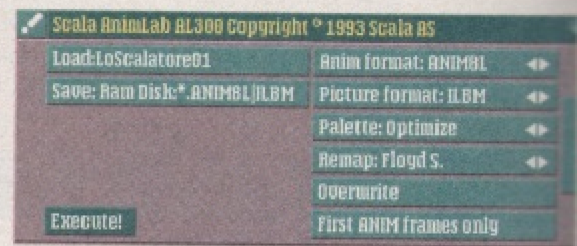
▲ When printing the script with pictures, it's possible to adjust the layout considerably.

Click on the buttons to adjust the number of pictures per page, the orientation of the pages, the range of pages to print and so on. Click on the exclamation mark in the very top left hand corner of the screen.

AnimLab

AnimLab is an exceptionally useful little tool, that will also come in handy when used without Scala. It's primary purpose is to make it easy to convert files between the various animation formats which exist on the Amiga. It can do other tricks too, like adjusting the size or the number of colours in each frame. There are many occasions when AnimLab will prove useful. For example, if you are replaying an animation in Scala and it doesn't seem to go fast enough, you can run in through AnimLab to reduce the colours or simply re-save it in a new format. This can be enough to smooth out any judders and give your script a considerably more professional feel.

AnimLab deals with animations on a frame by frame basis. This means that not only can it convert animations into individual frames, but it can combine frames into an animation. Ideal for converting files generated by Imagine or another 3D rendering program. Best of all, AnimLab doesn't need to store the entire animation in memory at once – which means you can create huge movies by chaining smaller files together. Scala can then replay them directly from disk, making it possible to create you own mammoth rendering feature films if you want. Obviously a hard disk with a lot of free space will be needed for this, but with 2Gb drives dropping in price there's never been a better time to upgrade your system: and this is the perfect excuse.

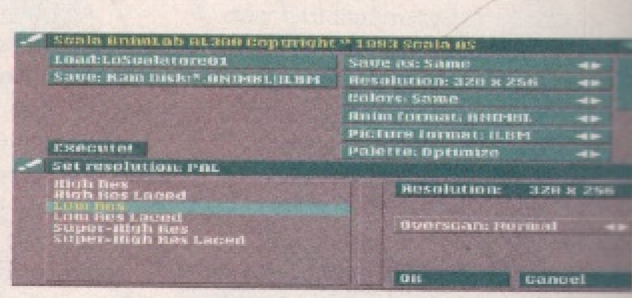


▲ Tweak your animations to perfection with this great freebee utility.

Using AnimLab is quite straightforward. Click on the Load button to select the animation you which to process. If you want to join several animations, or still images, together, use SHIFT to select all the files in one go. You can save your new file over the top of the original, or select a new name and location by clicking on the Save button.

The Save As button allows you to choose between saving the animation as a single ANIM file, or as a series of individual frames. If you are going to use frames, it's strongly suggested you create a new directory on your hard disk to help keep track of them. AnimLab will add numbers to the filenames to help you, but with larger projects it is still easy to get lost.

The Resolution button allows you to alter the size and colours present in the saved file, or files. Click on the arrows to change it from Same, and then click in the middle of the button. This will bring up a requestor which will allow you to specify the new details. Using this option you can shrink or expand animations to suit entirely new screenmodes.



▲ AnimLab can adjust the size of animations, to make the most of your system.



▲ Carefully select the palette options when saving your animation file.

Animations and palettes

As you probably know, Amiga screenmodes – and so the pictures and animations which are displayed on them – consist of a fixed number of colours. The number of colours depends on the number of bitplanes in the current screenmode. The more colours, the more information needs to be processed and so the animation files are both larger and take more time to display. Creating an animation is always a trade-off between playback speed, file size and the number of colours.

During an animation, it's possible for each frame to have its own palette. This allows for extra details, but it can slow down playback slightly. Scala's AnimLab allows you to save an animation with these different palette options:

1 Same
Uses the same palette as the original animation. If you are only changing the file format (for example, updating an ANIM5 file to an ANIM8) then use this option.

2 Optimize
Save an individual palette for each frame in the animation. During the conversion process, the palette is freely redefined as needed. This can cause problems if you want to display the animation on the screen along with other graphics, as you can't be sure how each pen is defined in terms of its colour.

3 Lock first
This time the very first frame in the animation defines the palette for the entire animation. If the animation doesn't vary much, this can be very successful. It also means you can be certain about the colours used if you want to combine the animation with any other on-screen graphics.

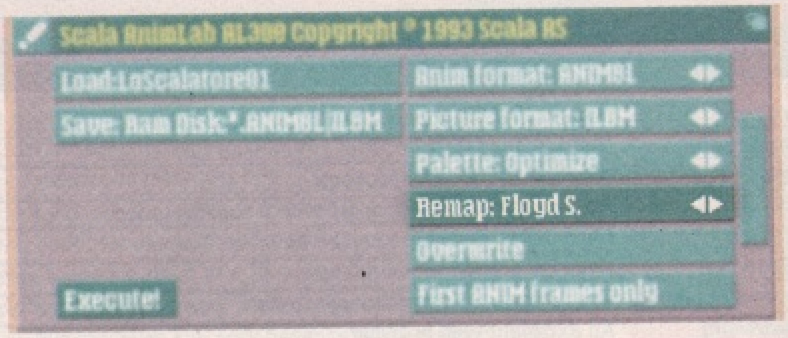
4 Lock optimized
Before the animation is saved, AnimLab runs through all the frames and uses the information it gathers to calculate a single palette which it thinks will best serve the entire animation. If you want a fixed palette, and it's advantage of extra speed, this can be a worthwhile option.

5 Lock average
A new palette is constructed, and hopefully all the frames in the animation will look acceptable when it is used.

6 Lock custom
A user-defined palette is used for the entire animation. If you have a static image you want to combine with the animation, then use this option. Click on the button to bring up the file requestor and load your palette file (an IFF image will suffice).

Remapping

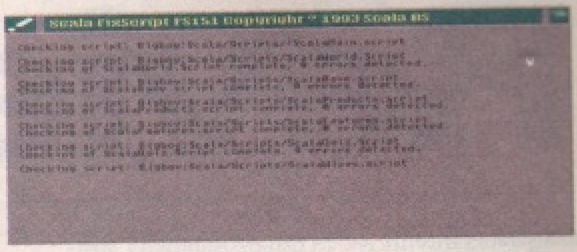
The Remap options are closely associated with the palette options. Remap has two settings: Normal, and Floyd S. The latter will dither your animations. This can be useful if you are reducing the number of colours in an animation, however the saving process will take longer and you will have to balance the savings in dropping some colours with the fact that dithering makes larger files and slows down playback slightly.



▲ Remapping your animation can improve the appearance when using less colours.

FixScript

If you want to share your scripts with friends, or if you have recently re-organised the directories on your hard drive, you'll find FixScript invaluable. FixScript goes though Scala Scripts line by line, looking for references to files such as pictures and fonts. If the picture file isn't found in the default location, FixScript will carry on looking on other hard drives and their partitions. Eventually it will look through the entire file hierarchy before giving up.



▲ FixScript will seek out and destroy any non-existing files in your Scala projects.

Obviously this searching can take a lot of time, but a caching technique means that only the initial search process will take time – subsequent searches will be a lot faster. If FixScripts cannot find the files, it will remove the broken references and substitute other files instead. For example, if a picture cannot be found, then a special "blank" image will be displayed instead. You can then load up the script in Scala and make the relevant changes yourself. Scala's utilities will help you debug and create your scripts. AnimLab in particular is a wonderful utility, and you don't need to be a Scala addict to use it, either. AnimLab is one of the those utilities which you won't know how you did without. It's ideal for editing all kinds of animations, and is a perfect complement to other packages such as Imagine and Personal Paint too. Keep on scripting! ■

John Kennedy

Animation Formats

Despite what you might think, there are several variations of the familiar Amiga IFF ANIM file format. These variations have been developed by various programmers to support more colours, better compression, improved playback speeds and to make the most of 32bit processors such as the 68020 or above. Newer animation formats will store separate palettes and timing information per frame, reducing file sizes. Scala's AnimLab can read, write and convert the following formats.

ANIM5
This was the original format, and it was most commonly used by packages such as Deluxe Paint. ANIM5 files are usually the most compressed format available – although sometimes multiple identical frames are stored due to lack of timing information – but this means they give the poorest playback results.

ANIM8W/ANIM8L
Probably the format of choice. Animations saved in these formats will playback a lot more smoothly than ANIM5 files. In general, you should use the 8L variation on systems with 68020/30/40/60 processors, and keep the 8W format only for use on 68000 systems.

ANIM16/ANIM32
This format was developed by Scala for storing and replaying animations. In general you should use the ANIM8 formats instead, as they are more widely supported/

ANIM16i/ANIM32i
These two formats are well worth experimenting with if you have the time. They are only useful if you are going to play back animations at maximum speed all the time, but the advantage is a 50% drop in file size. The format works by taking advantage of the Amiga's interlaced mode, which doubles the resolution by using two screen refreshes. Ordinarily this can appear as a form of flickering when used to display the largely-static Workbench, but fast moving animations can benefit. The original animation must have been created in interlaced mode, and when saved the new file will discard every second line – which would not have been seen anyway.

Reviews Index

This month we've got productivity software and hardware. Next month we switch the index back to cover games and CD-ROMs. Remember the scores listed are the original scores awarded to the products at the time of their review. These should be taken as a rough guide only, as they are all relative the rival products and prices that were available at those times, which may have changed since then. If you would like any other specific info or service from this index then please feel free to give us your opinions on the back of a postcard or sealed envelope.

Title	Type	Comment	Review Date	Score
Productivity				
Wildfire 5 PPC	Animation tool	A great tool for processing animations but needs tidying up	Jan 98	79%
Distant Suns 5.01 CD	Astronomy program	Great to see this wonderful program on release again	Feb 98	92%
Burn It	CD-R package	Excellent CD writing package	Jul 97	85%
MakeCD 2.2	CD-R package	A very professional package with a sensible price	Jun 97	92%
Air Mail 4.22	Comms (Email)	Much better packages can be found on Aminet	Jul 97	68%
AWeb II 3.0	Comms (browser)	Good but flawed web browser	Aug 97	84%
FFNews 2.0	Comms (news reader)	The Amiga's best newsreader to date	Oct 97	90%
IBrowse 1.12	Comms (browser)	An excellent web browser	Aug 97	89%
Netconnect	Comms (various)	A high performance no fuss solution for Internet access	Jun 97	89%
NewYork 1.0	Comms (news reader)	A good quality though basic newsreader	Oct 97	79%
STFax 2.90	Comms (fax)	A few features need work but the package is being updated constantly	Sep 97	93%
Voyager NG 2.10	Comms (browser)	The essential Amiga web browser	Aug 97	92%
WebFTP	Comms (www)	A life saver for webmasters	Mar 98	83%
Pagestream 3.3	DTP package	By far the best DTP package available for the Amiga	Mar 98	91%
Apple II Emulator	Emulator (Apple II)	It should have pushed the envelope a bit more	Feb 98	80%
Atari 800 Emulator	Emulator (Atari 800)	Certainly better than we have had to date	Feb 98	80%
Fusion	Emulator (Mac)	Fast and powerful Mac emulation but flawed	Oct 97	78%
PC Task 4.1	Emulator (PC)	Slightly better than PCx	Jun 97	89%
PCx 1.1	Emulator (PC)	It's not quite there yet but PCx could be the way to go	Jun 97	86%
Aladdin 4D 5	Graphics (3D)	Considering the long wait this upgrade should have been better	Oct 97	76%
Art Effect 2	Graphics (paint/process)	A terrific performer made excellent by its new features	Sep 97	91%
Art Studio 2.5	Graphics (paint/process)	Good as a cataloguer but poor as a processor	Sep 97	61%
Personal Paint 7.0	Graphics (paint)	Excellent 'register based' graphics package	Jan 97	89%
Cinema 4D 3.0	Graphics (3D)	Easy enough for beginners and powerful enough for experts	Apr 97	92%
Cinema 4D 4.2 CD	Graphics (3D)	A great product that keeps getting better	Aug 97	92%
Drawstudio 1.1 CD	Graphics (DTP)	If you are into DTP this is a must have	Apr 97	92%
Image FX 2.6	Graphics (paint/process)	Excellent image processing software	Dec 97	93%
Imaginex	Graphics (Imagine plug)	A worthy addition to Imagine that makes it easier to use	Dec 97	85%
Lightwave 5	Graphics (3D)	If you are serious about 3D buy this	May 97	94%
Picture Manager Pro	Graphics (organiser)	Solid image management tool needing some polish	Jan 98	83%
Visual FX	Graphics (ImFX plug-in)	The ultimate plug-in for ImageFX	Oct 97	96%
Envoy 2.0	Network package	The Amiga's definitive networking software	Oct 97	92%
Turbo Print 5	Printer drivers	A superb way to produce stunning output	Jun 97	93%
Blitz Support Suite CD	Programming (dev tools)	No Blitz owner should be without this	Feb 97	89%
Geek Gadgets 1.0 CD	Programming (dev tools)	Excellent snapshot of the ADE but not suitable for all	Mar 97	75%
Hisoft C++	Programming (compiler)	In some ways it's better than StormC but in others it's not	Mar 98	89%
Secal 1.0	Programming (language)	Only very advanced users should apply	Apr 97	79%
Storm C 2.0	Programming (compiler)	For anyone other than those used to SAS/C it's the best	Oct 97	87%
Ultimate Blitz CD	Programming (language)	An excellent language and a good compilation of-extras	Feb 98	85%
Siamese 2.0	RTG Network package	If you have a PC and Amiga then you need this	Jul 97	95%
Powerscan Professional	Scanner software	Getting a bit old but still competent	Dec 97	82%
ScanQuix 3	Scanner software	An essential purchase for all scanner owners	Dec 97	90%
Sound Probe	Sound (editor)	The best sampling and editing software by a mile	Jan 98	90%
TurboCalc 5	Spreadsheet	Dependable and thorough but v5 is a msinomer	Mar 98	86%
CygnusEd 4.2	Text editor	CygnusEd still slings text like nobody's business	Mar 98	89%
Digital Quill	Text editor	This young turk isn't quite king of the hill	Mar 98	87%
Executive 2.0	Utility (mulitasking)	Replacement multitasking scheduler	Jan 97	97%
Magellan Opus 5	Utility (file/OS)	The Amiga's most powerful Workbench replacement	Aug 97	92%
OxyPatcher	Utility (CPU patch)	Oxypatcher makes the fastest programs far faster	Oct 97	90%
Wordworth 6 Office	WP Office suite	Four in one package productivity package based on Wordworth 6	Feb 97	92%
Final Writer 97	Word processor	A superb all round document processor	Jul 97	93%
Wordworth 7	Word processor	Simply brilliant	May 98	93%
Art studio pro	Graphics (paint/process)	Under-delivers on features pales before the competition	May 98	69%
Picture Manager Pro 5	Graphics (paint/process)	Between a simple cataloguer and an image processer and impressive at both	May 98	90%

Elastic Dreams	Graphics (paint/process)	Not a rival for ImageFX but makes graphics fun	May 98	92%
Fusion 3.1	Emulator (Mac)	Keeping pace with Apple,Fusion is tops in Mac emulation	Jun 98	92%
TurboPrint 6	Printer drivers	An essential companion to any modern printer	Jun 98	93%
AWeb-II 3.0	Comms(browser)	Support of Javascript makes this worthy of the SuperStar	Jun 98	90%
MasterISO V2	CD-R package	A great all round package	Jun 98	88%
X-DVE 3.01	Video effects	A great video effects package as fast as it is flexible	Apr 98	92%
Siamese RTG 2.5	RTG Network package	The ultimate Amiga and PC integration	Apr 98	92%
Font Machine	Graphics (font editor),	Font machine makes creating colour fonts easier than ever	Apr 98	90%
STFax Professional	Comms (fax)	An excellent program for use in the home or small business	Apr 98	94%
DPaint5 CD	Graphics (paint)	A faded moment for the old champ but the rerelease is a good deal	Apr 98	83%

Hardware

Title	Type	Comment	Review Date	Score
Apollo 1260/66	Accelerator (A1200)	If you must have the fastest then you must have this	Oct 97	88%
Apollo 630	Accelerator (A600)	A good piece of kit with real advantages	Jan 98	88%
Blizzard 1240T/ERC	Accelerator (A1200)	Very fast 40MHz 68040 accelerator	Jan 97	95%
Cyberstorm PPC	Accelerator (A400)	Too pricey but for the power user this is a must have	Jan 98	90%
SX32 Pro	Accelerator (CD32)	A great accelerator and expansion module in one	Feb 97	88%
Viper 520CD	Accelerator+ (A500)	Major expansion including CPU, IDE x2, 8Mb RAM, 3.0 ROM & Fat Agnus	Dec 97	90%
Viper 630	Accelerator (A600)	Good if you are desparate to keep your A600, otherwise get an A1200	Aug 97	88%
Viper Mk4	Accelerator (A1200)	It will seriously improve your machine's performance	Jul 97	94%
Viper MkV 1230/50	Accelerator (A1200)	Not up to the standard of a Blizzard but for the price it's great	Aug 97	88%
Squirrel CD-R	CD-R drive	Excellent and economical CD writing solution	Dec 97	91%
Power 2x CD-ROM	CD-ROM drive	If you like the price buy now because these will sell fast!	Mar 98	91%
Catweasel	Floppy controller	The Catweasel provides a good way of connecting any kind of floppy drive	Jun 97	88%
Micronik Genlock MG 10	Genlock	Good value compared to the Lola and a Rendale genlocks	Sep 97	90%
Micronik Genlock MG 25	Genlock	Cheaper than the competition for an SVHS genlock	Sep 97	94%
Pro Gen Plus Genlock	Genlock	A great genlock that will take some beating	May 97	90%
Digi Pen Graphics Tablet	Graphics tablet	Hardly top of the line but brilliant beer budget graphics tablet	Sep 97	92%
Eyetech Buffered IDE Splitter	IDE splitter	Provides assurance of reliability in tower setups	Jun 97	88%
Zyxel Omni.net	ISDN Adapter	Brilliant and very powerful ISDN terminal adpater	Oct 97	95%
Action Pad	Joypad	A short bit of cable with a weight on the end	Feb 98	67%
AtÉo PC Keyboard Interface	Keyboard interface	Allows use of PC keyboard in A1200 towers	Jan 97	85%
Sharp MD-MS200 MiniDisc	MiniDisc Player	The ultimate in portable audio	Dec 97	97%
Supra Express 56	Modem	A good solid performing modem	Oct 97	84%
Alfa Data Megamouse Plus	Mouse	Well worth a tenner of anyone's money	Feb 98	96%
Amiga Technologies Mouse	Mouse	If you like the Amiga logo you'll like this	Feb 98	86%
Logic speed mouse	Mouse	Below-par mouse with extra clicky buttons	Feb 98	76%
Megamouse E	Mouse	Cheaper than a Megamouse Plus but you get what you pay for	Feb 98	82%
SMD-100	MPEG decoder	Good for watching Video CDs but not much else	Mar 97	78%
Gemini	Network package	Very poor software support	Jun 97	67%
Network PC	Network package	Improved software means ease of use	Jun 97	88%
Insert 104	PC keyboard interface	Using a PC keyboard with a big box Amiga has never been easier	Jul 97	93%
Hydra A1200 Ethernet	PCMCIA Ethernet	At last! Good quality ethernet for A1200 owners	Oct 97	84%
Whippet	PCMCIA Serial port	Simple installtion and good performance create a great product	Aug 97	85%
Topolino	PC mouse adaptor	If you want to use a PC mouse without losing the serial port this is for you	Jul 97	69%
Pen mouse	Pen mouse	Good idea but flawed design	Feb 98	70%
Epson Stylus Colour 600	Printer	It would be hard to find a better buy	May 97	92%
Epson Stylus Photo	Printer	Does a good job of photos when used with Turbo Print	Oct 97	89%
Quickcam Interface	Quickcam interface	Not as useful as it could be but still fun	Mar 97	89%
Power 4Mb RAM board	RAM board	Great for the price but not the best there is	Jul 97	90%
Epson GT-5000	Scanner	An excellent scanner but overpriced for the Amiga market	Dec 97	90%
Hewlett Packard 5P	Scanner	An excellent scanner no matter which way you look at it	Dec 97	93%
Artec Viewstation	Scanner	A first-rate scanner but you do pay more for the extra power	Dec 97	89%
Port Plus Jnr	Serial port	Slightly overpriced but still a great product for net heads	Aug 97	88%
Prograb HiFi Sampler	Sound sampler (8 bit)	A brilliant sampler for all occasions	Apr 97	92%
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IDE Zip drive	Storage device	A good product let down by the fact you must reboot when changing disks	Jul 97	85%
LS120 120Mb Floppy drive	Storage device	Neat drive but way too slow	Dec 97	83%
Amiga A1200 MMS	Tower case	Maybe not the most professional tower but excellent all the same	Sep 97	90%
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MK II EZ Tower	Tower case	A very nice piece of kit particularly for the not so technical user	Oct 97	89%
Power Tower	Tower case	The most professional tower case yet	Feb 98	93%
ProTEL teletext decoder	Teletext decoder	Needs more work on the software	Apr 97	69%
Golden Image trackball	Trackball	Great trackball	Mar 97	82%
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Cybervsion 64/3D	Zorro card (graphics)	A promising card though flawed software brings it down	Mar 97	81%
Picasso IV	Zorro card (graphics)	Quite simply the God of graphics cards	Jun 97	94%
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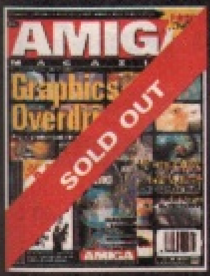
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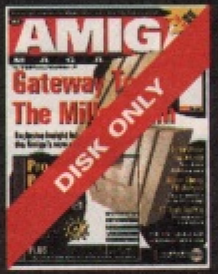
MARCH 1997
Disks: OctaMED SoundStudio (full program) Chaos Engine 2, Chaos Engine 2 AGA demo
Features: Turn your Amiga into a pro studio. Printers: problems solved.
Inside: Quickcam, Cybervision 3D, SMD 100, JetPilot reviewed



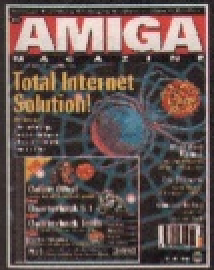
APRIL 1997
Disks: Directory Opus 5.11 (full program). Tiny Troops demo
Features: Build your own Tower Amiga Part 1. The 50 best Amiga Games
Inside: Massive Cinema 4D 3.0 Review, New DTP series, ProGrab Sampler, Teletext Decoder



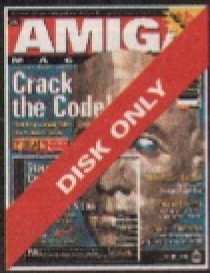
MAY 1997
Disks: Image Studio (full program) Kargon RPG, exclusive clipart on CD
Features: The Future's Bright: Gateway buys Amiga! Tower Amiga Part 2.
Inside: PageStream 3.2, Big Red Adventure, LightWave 5, Epson Stylus 600...



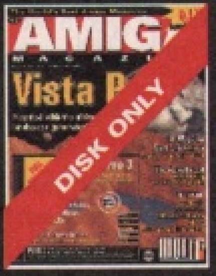
JUNE 1997
Disks: Pro Page 4.1 (full program) MPEGA 2.4, Sysinspector, The Sun game & more!
Features: CD-R for Amiga – cut your own CDs for a few hundred pounds plus Tower Amiga Part 3: Zorro.
Inside: Turbo Print 5, Net Connect, Cybervision...



JULY 1997
Disks: Free Net software, Quarterback 6.1 inc QB tools, Big Red Adventure
Features: Total Internet Solution, the history of the Amiga & a look at Amiga artist, Eric Schwartz.
Inside: Final Writer '97, Siamese RTG 2.0, Burn It...



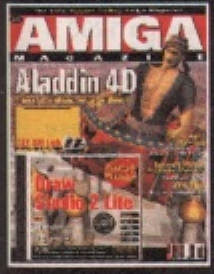
AUGUST 1997
Disks: Dogfight, Turbo Print 5 Lite, Storm C Compiler
Features: Power PC is coming, Crack the Code, plus Power Gaming
Inside: Cinema 4D, Voyager NG 2.90, IBrowse 1.12 & Tower add-ons...



SEPTEMBER 1997
Disks: Sixth Sense Investigations, Vista Pro, MakePath, GeoMorph
Features: New Faces of Amiga Gaming, Amiga: The Next Generation, DIY Sound Card
Inside: Art Affect 2, Art Studio 2.5, Micronik genlocks, Flying High



OCTOBER 1997
Disks: TFX, TB 303 Emulator, Virus Z, Video Easel, Visual Prefs
Features: TFX: Quickstart Guide/Techniques & Tips etc., Suzanne: The Portable Amiga
Inside: Fusion Mac Emulator, Civilization, Mk II EZ Tower, Storm C



NOVEMBER 1997
Disks: Draw Studio 2 Lite, AIR Link Software
Features: D.I.Y. AIR Link, Aladdin 4D V5.0, Hydra A1200 Ethernet, Sensible Golf
Inside: Epson Stylus Photo, OxyPatcher, More TFX Tips, Visual IFX, Envoy 2.0,



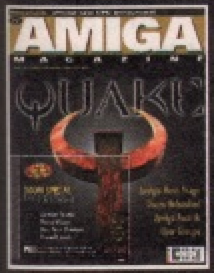
DECEMBER 1997
Disks: PC Task 3.1, Dir Work 2.1, Workbench enhancements; icons, backdrops etc.
Features: Myst, PowerUP: First look, ISDN: The Net on speed
Inside: Imaginex, HiSoft Squirrel CD-R, Sharp MD-MS200 Minidisc



JANUARY 1998
Disks: PPaint 6.6, Trapped 3 Demo, Sound Samples. CD Demos; Sound Probe, Foundation
Features: 1997 Review, Workbench 2000, Remixing with the Pros
Inside: Cyberstorm PPc, Picture Manager Pro, Appollo 630, Uropa 2



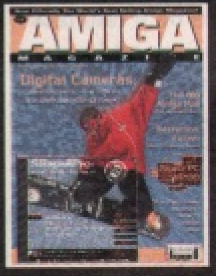
FEBRUARY 1998
Disks: SCALA MM300, Sword Demo, 600 Mb of Tools, Mods, Graphics
Features: Amiga Forever Emulator, The Big Switch (PowerPC), CDDA Mixer
Inside: Apple II Emulator, Distant Suns CD, Power Tower, Input Devices Round-Up



MARCH 1998
Disks: Doom, NetPBM, Cartoon Studio, AmIRC, VirusChecker III
Features: Amiga: Next Generation, Stars of '97, Quake
Inside: TurboCalc, HiSoft C++, WebFTP, Pagestream 3.3, Ultimate Super Skidmarks



APRIL 1998
Disks: Shapeshifter, Mac Emulator, PowerPC Doom, New SoundTrackers
Features: Take it to the Macs, Millennium Bug, PowerPC Update, PowerPC Winners
Inside: X-DVE 3.01, Siamese RTG, Doom Level Round-Up, Font Machine



MAY 1998
Disks: Interactive Fiction, Quake Demo, SBase4Pro, PowerPC Software
Features: The Big Amiga Poll, Digital Cameras, Interactive Fiction
Inside: Blizzard PPC Card, Elastic Dreams, Fusion 3.1, Wordworth 7, Picture Manager Pro



JUNE 1998
Disks: Reality Game Creator, Web FX, ADoom, PlayMF, Petro Speech
Features: Game Creation, Spam, World of Amiga Show Guide
Inside: Image FX 3.0, Turbo Print 6, Scan Doublers, Sirius Genlock, AWeb, Master ISO

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Q&A

Don't worry how complicated your technical problem is, challenge our panel of experts and they'll try to fathom it out. Please don't forget to provide us with as much detail on your systems and problems as possible, to help us solve things for you.

Logos

Mysteries and meanings ...

WORKBENCH – Solutions to those everyday troubles with your Workbench.

EXPANSION – If you need help getting more from your Amiga, just ask!

COMMS – All your Internet and general comms problems swiftly solved.

SOUND – Trouble making your Amiga sing? We've got the answers here.

HARDWARE – Technical matters beyond the scope of plug-ins and plug-ons.

SOFTWARE – Answers to queries on particular pieces of software.

HELP – General queries which just don't seem to fit in anywhere else.

CD-ROM – Specific help with CD-ROM solutions and driver problems.

GRAPHICS – Problems with art and design? Help and advice is at hand.

PERIPHERALS – Printers, monitors, we'll solve your peripheral blues for you.

The Psion connection

Please tell me if you know of any Amiga program which can convert and manipulate Psion .PIC files to Amiga IFF or GIF and back to .PIC, etc., and if so what are they. A program I would kill for would be a Psion emulator for the Amiga (I do own the excellent comms program AmigaNCP, the next best thing). Then such problems as this would not arise. I know such beasties do exist for the PC, so why not for the Amiga?

I own a Psion Siena with 512K memory and a non-Windows, 16-bit, true-multitasking OS. Does that sound familiar to anyone?

Bill Power, Co Armagh

Sadly, there seems to be a real lack of Amiga software designed for use with the Psion series of palmtop computers. As you say, there is AmigaNCP, which handles all the file transfer and sharing, but there is precious little else.

There are no conversion utilities for manipulating Psion .PIC files on the Amiga, nor even any datatypes. But there are ways you can import .PIC files. For example, there is a utility called ViewPic which can be found on this month's cover CD or on the Aminet at gfx/show/viewpicAmiga.lha. You can use this to display a particular .PIC file on the Amiga and then use a screen or window grabbing tool to capture the displayed image. PPaint would be good for this, since it would allow you to grab the screen and process it any way you pleased (cropping, colour-remapping, whatever) and save it out in the format of your choice. This may be a rather around-about route, but it could be automated with ARexx scripts.

Another possibility would be save the pictures as BMP or GIF files on the Psion before transfer, say with the tool PicView by Purple Software. Plenty of support for these formats exists on the Amiga. Purple Software may be contacted at +44 (0)171 387 7777 and there website is at http://www.purplesoft.com.

There is similarly no Psion emulator for the Amiga. However, since the PC Psion emulator runs in MS-DOS and requires only a 386 or better, it should be perfectly usable on an Amiga PC-emulator, such as PC-Task. You would be then be using an Amiga emulating a PC emulating a Psion. Neat trick, huh?

The mark of Zorro

I currently own an Amiga 1200 in a tower case with an Apollo 040 accelerator and 8Mb Fast RAM. My questions are concerning Zorro slots. Is it worth getting a Zorro busboard? What benefits will this give me? What is better Zorro II or Zorro III, or is there no difference? Will the busboard still be compatible if I upgrade to PPC?

J. Gillespie, Falkirk

You have to answer the question "Is it worth getting a Zorro busboard?" yourself. You have to ask how much you wish to expand your Amiga and how much you are willing to spend on this.

Currently, Zorro cards are the premium route for expanding your Amiga and are the only option if you wish to get a graphics board, eg; the PicassoIV or CyberVision 64/3D, or a 16-bit soundcard. (This will change soon, though). The solution to fitting Zorro cards to an A1200 is to get a Zorro busboard. This plugs into your A1200's trapdoor expansion slot (with a pass-through for any existing card you may have plugged in there) and will need a towered-up Amiga. Equipping your A1200 will really take the pressure off of the fierce competition for expansion space on a normal A1200. Sure, there is the PCMCIA slot and the clock header – but if you have an ethernet card installed in the former and a CatWeasel in the latter, where can you go?

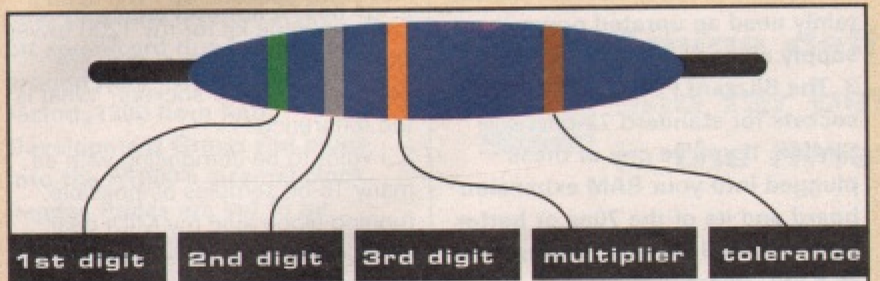
Micronik produce various busboard systems, which are distributed in the UK by Blittersoft (Tel: +44(0)1908 261466). The ZII system will give your Amiga 1200 5 Zorro II slots for £149.95 and is compatible with A1200 accelerators. I currently use one of these with a Hydra ethernet card and a CyberVision plugged in. It works like a charm, even with the multitude of accelerator cards (including the PPC) that I have tested in the machine.

The ZIII system claims to give you 5 Zorro III slots (as found in an A4000) and has a built in SCSI-II interface. As nobody has sent one of these to CU for review, I cannot say if it works or not. I do know that it requires an A4000 CPU board to function in ZIII mode. With an A1200 accelerator it operates in ZII mode. The ZIII is an expensive option: the busboard retails at £319.95 and you must then add on the price of an A4000 accelerator. Since very few cards actually require a ZIII slot only, unless you have money to burn or crave the extra performance of Zorro III, Zorro II is a better option.

Another possible route to using Zorro II cards in your A1200 is with the single-slot Zorro bus from Eyetech (Tel. +44(0)1642 713634). If you only wish to plug in one Zorro card, this could prove a cheaper solution (see the review elsewhere in the magazine).

The days of Zorro's monopoly on Amiga expansion will soon be over, however. The French company AtÈo Concepts will shortly be releasing their own custom bus

Tech Tip:



	DIGIT	MULTIPLIER	TOLERANCE
black	0	1	1%
brown	1	10	2%
red	2	100	
orange	3	1000	
yellow	4	10000	
green	5	100000	
blue	6	1000000	
purple	7		
grey	8		
white	9		
gold		0.1	5%
silver		0.01	10%

Resistance is not useless

After running DIY projects in the past, the CU Offices have been inundated with calls asking how to identify those brightly-coloured, sausage-shaped things called resistors. So here is how you do it.

The resistor will either have 4 or 5 coloured bands. On both types there will be a band at one end spaced apart from the others. Consider this as the right-hand end of the resistor. This band tells you the tolerance of the resistance.

The other bands reading left to right from the other end of the resistor identify its value. The first two or three of these will be the significant digits and the final one will be the multiplier.

For example, if you have a resistor with bands yellow (=4), purple (=7), black (=0), red (x 100), and brown (1%), this gives a resistance of 470 x 100 = 47k Ohms with a tolerance of 1%.

system for the A1200. This will provide Zorro-like performance at a reduced price.

They are planning to offer a range of cards, the first being a graphics card, the Pixel64. Also, phase5 are soon to release their CyberVisionPPC and BVisionPPC – a 2D/3D graphics card which plugs into their range of CyberStorm and BlizzardPPC accelerators. And finally, Micronik are rumoured to be working on a PCI bus system. It would appear that interesting times are ahead!

No compromises

I have experienced much the same problems as Adrian Cope (see Q+A, May issue) with the Net&Web software. I was using a 33.6 modem, but could only achieve 57600 cps.

When I reset to 115200 I got the reply that the modem initializing string was wrong. Technical support at HiSoft recommended that I use a demo version of Termite, but this also gave the same result.

The cure was to download the demo version of Miami3.0. Configuration was simple and I dialled up at 115200 the first time. I was then able to go to the Miami website and register my software in a matter of minutes. I have also found an ideal e-mail client in John Zacharias' AEMail v1.51. This commands a shareware fee of $US 25, but in my humble inexperienced opinion is well worth it.

Web browsing is by a registered copy of IBrowse (yes, I was one of those who brought Demon to its knees!), and on-line call cost monitoring is admirably carried out by Online-O-Meter from Ellis Pritchard. Three AREXX scripts from Jason Davies ensure that all call costing is automatic.

My bottom line now is "Buy the best – no compromises"

Sam Quigg, via e-mail

It is most refreshing to hear your comments Sam. Remember also that by registering software you are not only doing yourself a favour, but assisting the continued development of Amiga software.

Registering Miami in the UK is even easier now, since it is being handled by Weird Science (visit http://www.weirdscience.co.uk/html/miami.htm

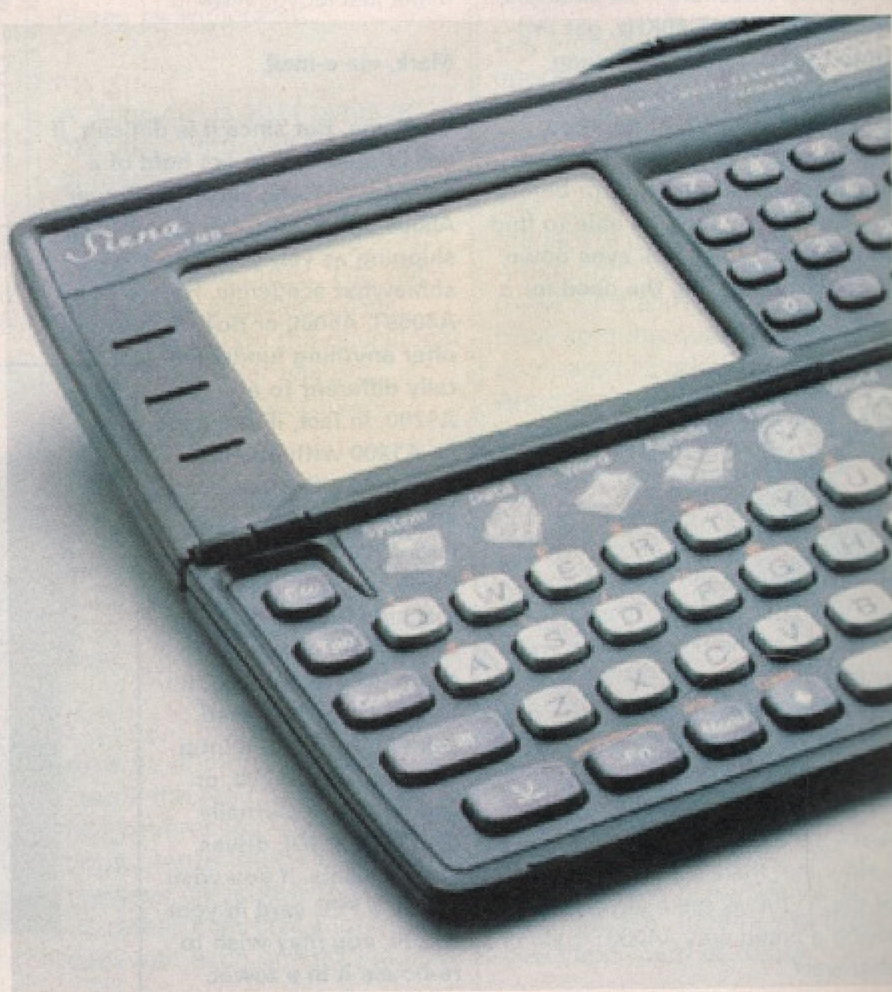
Monitor mystification

I have been lucky enough to get hold of an NEC 2/A MultiSync monitor. I was under the impression that I would now be able to connect it up to my Amiga and enjoy a flickerless screen in hi-res screen mode. The monitor has a PC connector. I was told that I had to have a VGA adaptor but would be unable to play games with it. For that I would need a scan doubler.

I thought that having a multisync would do away with the need to buy such peripherals. Am I wrong in thinking this or do I need the above bits and pieces? If these peripherals are necessary, then it seems pointless to own a multisync. I don't know, do I need them or can I just change the lead somehow, although the cable is not detachable from the monitor. Please could you help me.

M. Goldie, via e-mail

A multisync monitor, by definition, is a monitor that is able to sync to a range of different frequencies. However, for any particular monitor you must find out what those frequencies are. A standard Amiga produces video signals with horizontal scan rates of 15KHz, in PAL and NTSC modes, up to 29.3KHz,



▲ The Psion Siena. A portable companion for your Amiga?



▲ Are you bored of Doom or think you can do better levels? Have a go with DEU, an Amiga WAD creator.

in productivity modes (or to 31.4KHz with the VGAOnly patch), so ideally a monitor should be able to display all these frequencies – which the Amiga multisyncs can.

PC multisyncs, such as your NEC monitor, though, generally are not able to sync as low as 15KHz, and so will not be able to display PAL and NTSC screenmodes. This is a bit of problem since these are the most frequently used modes on the Amiga, especially for games. The solution is to get a scan doubler. This a device which doubles the horizontal scan rates of all video signals below a certain frequency threshold – for example, PAL signals, at 15.60KHz, get promoted to 31.20KHz – allowing them to be displayed on PC multisyncs and most VGA monitors.

The motto here is: check the specification of the monitor before you buy it. You may be able to find a multisync which will sync down to 15KHz, obviating the need for a scan doubler.

Upgrade? Or Doomed

Alright, you've done it. You've finally convinced me. What am I talking about? My brand new, 24 speed CD ROM, that's what! Thanks, if it wasn't for all the pressure you were putting on us non CD ROM users, I wouldn't have my lovely CD ROM! Lets face it, if it wasn't for your great coverdisks, I would probably still be using a floppy only Amiga! OK, here's my questions:

1. Now that there's a PowerPC card for the A1200, is there any point in buying a brand new A4000T/5000 or whatever?
2. Now that I've got everything I want for my Amiga (except a PowerPC card) is there any point in upgrading to a tower?
3. If I decide not to get a tower, will I have to take out my Ram expansion in order to fit the PPC? If so, is there a PPC board with extra Ram built in because I can't stand the thought of going back to 2Mb.
4. How can I make my own WAD files for Doom? I have the PC version of Doom on my Dad's PC if I need it. It would be nice to see a step-by-step feature or something to show people how to create their own levels. I have got a great idea for a set of themed levels, and if you can teach us how to do it I might just let you have it!

Mark, via e-mail

1. Maybe. But since it is difficult, if not impossible, to get hold of a new A4000T and since the Power A5000 and the BoXeR are not shipping as yet, your question is somewhat academic. However, an A4000T, A5000 or BoXeR does not offer anything fundamentally different to an A1200. In fact, if you have an A1200 with one of Micronik's Z3 busboards and an A4000 processor board, you would effectively be turning your machine into an A4000.
2. If you want use Zorro cards, yes; otherwise, no – everything you need can either be fitted internally to your A1200, or can be used externally like SCSI or IDE drives and modems. If you wish to use a PPC card in your A1200, you may wish to re-house it in a tower, anyway. The PPC card runs hot – the standard A1200 case is not designed to dissipate that much heat. You will certainly need an uprated power supply and a fan.
3. The Blizzard PPC board has two sockets for standard 72-pin SIMMS. If you've one of these plugged into your RAM expansion board and its of the 70ns or better type, you will be able to transfer it to a PPC board.
4. There are many tools for creating Doom WADs on the PC, but the only Amiga port so far is called DEU. This is a not very friendly nor stable package, but it works – just. Designing Doom levels is an involved business, but if you follow the tutorial provided with the package, you should be able to pick it up. One thing to note is that DEU requires a registered WAD file, eg;.from the commercial release of Doom. Perhaps if we get enough demand from readers, we could run a workshop on Doom level construction. You can find DEU on this month's cover CD.

Tuning up your A1200

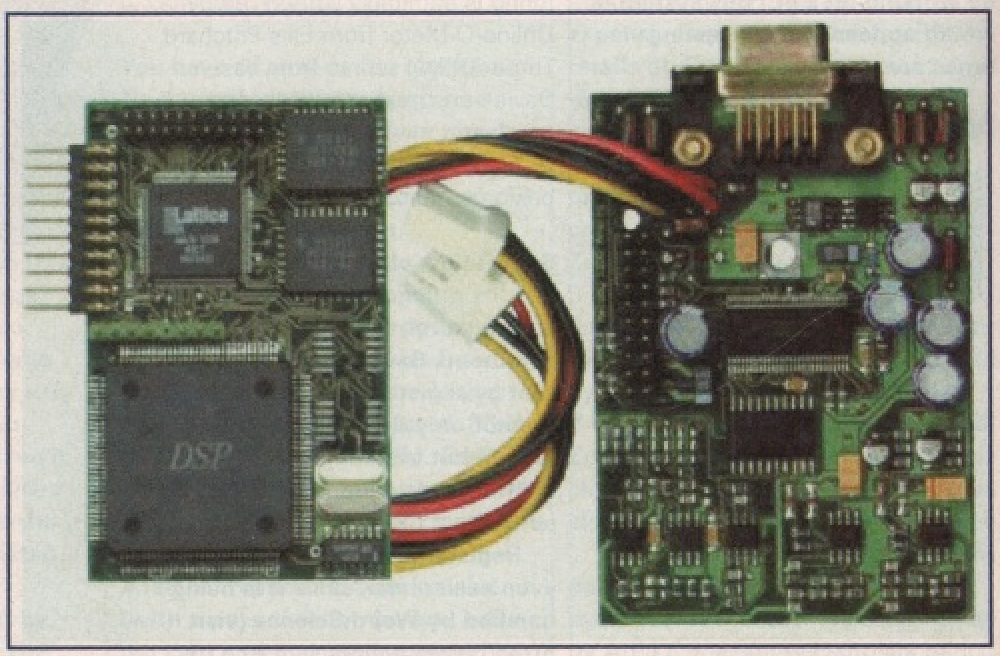
I have been making music with the Amiga for several years and have built-up a large collection of MIDI gear. My current system is a towered A1200, 4Mb RAM (via trapdoor expansion), 3.5Gb hard drive and a SCSI CD-ROM. I have been using OctaMED v5 as my sequencer, but now wish to use OctaMED Sound Studio's 16-bit sample capabilities. My queries are:

1. I will need a quality 16-bit soundcard. I have heard of products like Toccata and Delphina, but cannot find information on them. Which soundcards do you recommend?
2. I believe most soundcards plug into Zorro sockets. So I will need a Zorro upgrade kit for my 1200 tower. Does it matter whether they are Zorro II or Zorro III sockets? What is the difference?
3. I want to be composing with as many 16-bit samples as possible, running along side my MIDI gear. Will OctaMED Soundstudio limit me to how many samples I can have playing at any one time. If there is, then is it a software or hardware restriction?
4. Will 4Mb Fast RAM and 2Mb Chip RAM be enough memory to have a fair few 16-bit samples running. If not, how can I put extra memory into my Amiga.

Renato Vitale, Swindon

1 & 2. The only 16-bit soundcards currently available for the Amiga – eg; the Toccata, the Prelude and the Delfina – are all of the Zorro II type. Hence you will need an Amiga with Zorro slots to use them – whether they are Zorro II or III should not make any difference. (See previous question titled 'The Mark of Zorro')

Of these cards, I would recommend the Delfina, purely because of its DSP (Digital Signal Processor). However, for most purposes these cards will all perform similarly because they are all used via a similar software interface, whether via AHI or via OctaMED's custom interface. The Delfina Lite is available directly from the manufacturer, Petsoff in Finland, for $400 (about £250). More information may be found from their website at http://www.sci.fi/~petsoff/. It may be worth looking out for a second-hand card, though.



▲ The eagerly awaited Melody 1200, a 16-bit soundcard for the A1200.

If you do not wish to go the Zorro route, you may be interested to hear of a new internal A1200 16-bit soundcard due for release around May. This is called the Melody1200 from Kato Development Group and plugs into the A1200's internal clock header. Prices are yet to be announced, but again more information can be found at Kato's website at http://users.informatik.fh-hamburg.de/~plewka_j/kato/m.

3. Since the processor mixes all the sample via software, the number of channels you may use and the quality of the samples (the mix rate) is dependent on the processor speed. The faster the processor, the better. I'd recommend a 25MHz 040 or better.

4. The 4Mb of memory will be adequate for most things as long as you don't use a lot of long samples. Extra memory is always handy, though. You might consider shopping around for a cheap accelerator board with some memory, because prices of CPUs and memory has fallen quite significantly of late.

How to write to Q&A

You can send your queries (or tech tips) to Q&A, CU Amiga Magazine, 37-39 Millharbour, Isle of Dogs, London E14 9TZ or preferably e-mail: q+a@cu-amiga.co.uk. We can accept letters or text files on floppy disk. Please do not send an SAE. WE CANNOT RESPOND DIRECTLY TO QUERIES BY POST OR OVER THE PHONE OR E-MAIL, nor answer every Q&A we are sent. Sorry. We do appreciate that you may have a serious problem and until Amiga International re-open a UK office you may have no-where else to turn, but we get so many questions we simply don't have the time or resources to answer them all. We do our best to use letters in Q&A that answer most common problems, so even if your own question is not answered you may find an appropriate solution here.

A to Z

Amiga definitions for J&K are quite few and far between: although John Kennedy is the most obvious...

J & K is for...

Jack in
One of those cyberpunk phrases which seems very cool until you apply it to your Supra 9600 modem. "Jacking in to the net" isn't quite as exciting as William Gibson envisaged.

Jam
When programming using the Amiga graphics primitives, there are four drawing modes: including JAM1 and JAM2. Both literally "jam" colours onto the screen (and the background colour as well in JAM2 mode). You're unlikely to meet this unless programming the Amiga is C or C++.

Java
A complete and very powerful programming language, which looks a little like C++ but with big brass knobs on. Java programs don't care what hardware they run on, as long as they have a Java Virtual Machines. Java on the Amiga would mean access to a growing number of applications. Java programs can exist in two forms: Applets, which are embedded in Web pages, and Applications – which are standalong programs.

Join
An AmigaDOS command which will join two or more files, creating a single file which contains the date from both. You could use it to link up several text files, or even join two graphics files together – although as join isn't in anyway intelligent, the result would be garbage. Sometimes used in AmigaDOS scripts, but not that often.

JPEG
A graphics file format, named after the Joint Photographic Experts Group. JPEG files, often featuring the extension JPG, can crunch down detailed images to a fraction of their original size. They achieve this by using a mathematical filtering technique to discard some finer details. JPEG is a great way to store scanned images, or transmit them over the Internet.

Jump table
A programming technique, used to extend the distance which by a program can jump to a new location. The jump table would consist of a list of destination addresses, and routines would go to these rather than the destinations directly.

Jumper
A small plastic and metal tab, used to short out two small pins on a circuit board. Jumper pins are frequently used to switch on and off features on accelerator cards, and also to set configurations on hard drives. Although atrociously user-unfriendly, they are simple and cheap to implement.

Kb
A "kilobyte" is 1024 bytes of memory. Time was when 1Kb of memory was considering a lot – these days thousands of Kilobytes are required just to boot up a computer. The price of memory generally drops quickly, although the occasional factory fire or far eastern economic blip can causes increases.

Kernel
The core of the operating system, the Kernel manages system resources such as allocation processor time or memory.

Keyboard buffer
An area of memory which stores the results of the last few keypresses. This allows the computer to fetch details on the keys pressed when it wants to, rather than being forced to deal with each one individually.

Keyboard Shortcut
A key combination which duplicates a mouse action, such as selecting an option from a menu. It's often quicker to use shortcuts when typing.

Keymap
A file which contains information on which key causes which character to be sent to the computer. Different keyboard layouts – for example, keyboards designed for foreign languages – can therefore be used by using a different keymap, rather than making more in-depth changes to the operating system. UK users will find a reference to the "GB" keymap file, which helps the pound and hash symbols find their rightful locations.

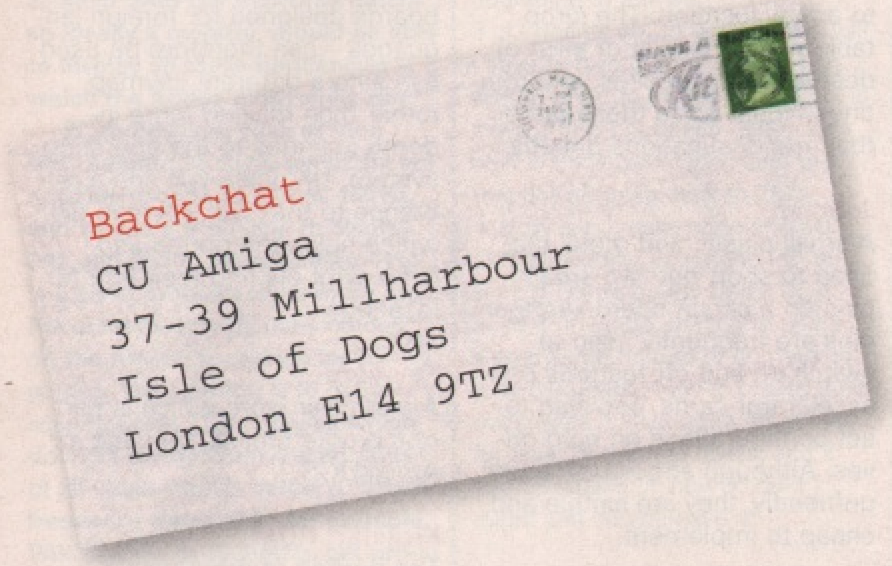
Keyword
A particular word which is part of a programming language, or AmigaDOS.

Kickstart ROM
The portion of the Amiga's operating system which is stored permanently in ROM. A lot of the Workbench and Intuition systems are stored on disk, but between half and one megabyte (depending on Amiga models) are stored in ROM. This allows the Amiga to boot up quite quickly, especially compared to other systems. Amiga's which use 32 bit processors (68020 processors and up) have two separate Kickstart ROM chips. Some accelerator cards make it possible to re-map the ROM in system RAM, providing a slight increase in performance.

Kill file
A file used to filter out unwanted mail or news. For example, a Kill File might contain the names of people who's message you can't be bothered reading. Adding someone to your "kill file" means you have classified them as idiots.

Backchat

Got something to say? Then get it down on paper or email it to backchat@cu-amiga.co.uk



Harry Monkhouse

Having read your Quake feature in the March issue (nice cover by the way, more of that please), I think you put your finger on what I think could be the key issue in the way forward for Amiga games: editability. Being able to create, that's what us Amiga users like. I think this is the underlying difference between your average Amiga and PC gamer. I'm sure I'm not the only one who has spent more time creating Worms levels in PPaint than playing them.

I urge all bedroom programmers to get cracking on editors for classic games such as Gunship 2000, Desert Strike, and wouldn't Cannon Fodder be excellent with a mission editor? It needn't be anything fancy. A few graphic tiles pieced together and target buildings. I imagine Microprose Formula One Grand Prix is still one of the top selling Amiga games because of Oliver Roberts' F1GPEd.

I know what you're thinking: why don't you do it? I've got Blitz Basic but frankly I couldn't program my way out of a paper bag, and Blitz's manual is no help. But I know there are people out there who can. Go on, it could get you some money.

Your mag's great, in particular the CDs. Could you put some Blitz source code on it for simple games that people like me can tinker with? Oh, and perhaps an IFF file of someone saying the name "Tyschtchenko" so that we know how it is pronounced it.
Cheers.

Darren Lusty, Glocs.

PS. If you print this letter could you please title it: "Who likes Bob Monkhouse anyway?"

You'll have to make do with that shorter title as yours doesn't fit on a single line. We'll ask Petro himself to give us the correct pronounciation. Look out for that on next month's CD.

New punter alert!

I have been buying your mag for five months now and it's brilliant. I bought my mate's A600 with a 20MB hard drive (don't laugh, it's not the size it's what you do with it!).It has to be the best thing I have ever bought. Rarely has a day gone by without me using it for games or just playing around on Workbench. Although it's not too powerful in the graphics department (only ECS) I am still going to upgrade it to OS3.1 and an 030 33MHz with 8MB RAM.

I was wondering if you could tell me when the A5000 will be released and how much it will cost. I am planning on buying one as soon as they are available. I will be sticking with Amiga whatever happens. Keep up the good work.

"Slider", no address supplied

Pratt detector

I have just finished reading your May 1998 issue of CU Amiga and after reading the Backchat pages I felt I had to reply to Anon (CU's lame excuses). I agree with Tony Horgan when he says the Amiga market has shrunk and I think it is mainly due to the lack of support local computer stores give the Amiga. In Warrington every store classes the Amiga as defunct (a point I quickly corrected them on).

Overall he sounds a right pratt and people like him shouldn't be allowed near electrical appliances. Keep up the good work as I think CU Amiga gets better each month.

P Taylor, Warrington

Needless cruelty

I was reading with quiet optimism about the new developments, the new products, the amazing concepts that were going to rescue the Amiga and put it right back on the map, when BANG! CU Amiga, those apparent stalwarts of all things Amiga, are actively supporting acts of sabotage against our beloved Amy. I refer of course, to the advert for "AMIGA REPAIRS", a grave misnomer I fear, as they seem to consist of one of those boiler suited propeller heads from Intel torching an innocent A1200. The fiends. End this needless cruelty now!

M Snowden, Amiga Liberation Army

As you said in the previous bit of your letter that we chopped out, you haven't been reading Amiga mags for a while. If you had you'd have know that ad has been doing the rounds for years. In fact, if you were a real Amiga mag-spotter you would know that the picture is taken (with permission) from the cover of the September 1992 issue of CU Amiga. However, even the most spottery types are unlikely to be aware that the person behind the mask defacing the Amiga is in fact none other than 'Dick Bleach' (name changed to protect the not-so-innocent), long since lured into that mysterious Bermuda triangle they call "Bath".

Sticky moments

I have an idea I'd like to put to you. As I see it, most computer users



▲ "actively supporting acts of sabotage against our beloved machine" – but who is it?

Letter of the month

Disturbed or stupid?

Just one question needs to be asked: are most of your readers crazy/mentally disturbed or just plain stupid?

Almost every month, someone writes in to have a moan about PC domination, a nag about something in your magazine being out of context (or wrong) or a groan about the lack of PC game conversions. Sometimes it is like reading a magazine version of the BBC's Points of View programme and I definitely think that most readers require urgent therapy!!

Michael Gunter's email in the May 98 issue was a prime example of the lack of faith towards the Amiga market and I'm pretty sure that he is one step away from buying a PC. I am also sure that a lot of Amiga owners are now considering moving to a Wintel machine, but what for? It's a bit like an army in the war deciding that it's no use fighting any more and that they should just let the enemy take their country. It's a defeatist attitude!!

By supporting the Amiga we are standing up for consumer choice and we are not giving in to the ignorant members of the computer industry, such as PC corporations. Ignorance is a horrible afflication which seems to contaminate the computing world. It kills off intelligence and we should fight it to get recognition for the Amiga!!

I would love to see some PC games converted to the Amiga, but why moan to a magazine about it? Do us all a favour and learn to program if you can or moan to an Amiga software company for a change! I'm starting to learn how to program in C, JavaScript and Java (OK, so I'm using my dad's PC) so that I can hopefully create some games and other programs for the Amiga. You don't see me moaning do you?

Christopher N Hindley, Flintshire

believe the Amiga platform to be dead or dying. Yet when shown what a typical (accelerated) A1200 can do, they are usually surprised. "I didn't know it could do all that!" is a typical response.

The general public need to be educated about the Amiga's current capabilities, and past achievements, which, of course, means advertising. However, adverts on TV or in newspapers and magazines are expensive. What we need are cheap, yet effective ways of getting the message across.

My suggestion is this... stickers. If magazines such as yours were to provide a few small Amiga-promoting stickers along with the cover disks every month or so, they would soon start to appear all over the place. I do realise that eventually the stickers might get 'banned' from some computer rooms, but that in itself would get more publicity for the Amiga. Remember what happened to 'Relax' by Frankie Goes To Hollywood? The BBC banned it, and it went to No. 1.

Perhaps when people start to realise that the Amiga isn't dead after all, and what it's capable of, they might start to ask questions.

Alastair Warren, via email

Your wish is our command.

99 year trips

Your Millenium Bug article made for interesting reading. However, it should be noted that file datestamps and the system clock do not store year as two digits. AmigaDOS stores this information as the number of days from 1 Jan 1978, so is not susceptible to post '99 year trips. Well not until the 680x0 date bug occurs in 2030 something anyway.

However, Amiga Int/Inc should note that the 'Date' needs to be fixed for four digit year entry. While they are at it, it would be nice if they add a DFORMAT parameter for controlling date output format adding julian-type day count etc.

Likewise, 'List' needs its output fixing so that LFORMAT "%d" will produce a four digit year output. Some method of date/time output formatting would also be welcome too.

Have fun.

Tony Bullock, via email

So now we know.

Wind of change

Andrew Korn's comments about stimulating the Amiga rally certainly hit home with me. I have sat back and watched for years, quite hapy with my Workbench 2.04 A1500. Sure I did upgrade early on with an A2091 and hard drive, even an A2620. I later Sernetted a CD32 to my system. There I stayed content in my knowledge of the operating system and the workings of my favourite software. I smugly watched my workmates buying and dumping their ever speeding PCs with frightening rapidity. Even my Amiga mates when speeding by with their A1200s – first Blizzard 1220s and then 1230s, CD-ROM drives and Internet connections. All this was making my 2.1 MIPs look as slow as a slow thing could possibly be. Seeing the software development slip behind the PC at such a rate however did depress me somewhat but never waned my loyalty or enthusiasm.

Since the turn of this year however the wind of change I feel is starting to blow to the Amiga's advantage. The whole scene seems brighter and a lot more confident.

The Amiga/Gateway strategy of licensing is surely the answer; accepting the advantages of looking outwards instead of inwards, broadening development horizons and ignoring outside influence. The Amiga's insurance policy for survival is its operating system being closer to the concept of the machine than any piece of silicon will ever be.

At the end of April I have ordered a Pro Tower II from those nice Eyetech people: 68040 33MHz, 16MB memory, CD-ROM drive etc. Real AGA muscle at last. PPC and the Internet beckon. Unlike mosdt Amiga flag wavers I have belatedly put my money where my mouth is. Hopefully it won't be too late.

Geoff Hinks, Flintshire

The way I tell 'em

Firstly, thanks for producing such a quality magazine every month. Even though it's overpriced and is half the size it used to be, it is still the best way of learning more about my Amiga.

I loved the article on OS4 in "The Next Generation Amiga" and have thought long and hard about a feature to attract people to it. My suggestion is to add case sensitive jokes. Yes, in addition to case sensitive help, I think that it would be great for a computer to make you giggle when you want. Amiga Inc could make this point in their adverts by getting famous comedians to make jokes about Wintel, and then have them say "Amiga" and stop laughing.

Then they could have a sort of competition to enter your own jokes, and the best ones win. Perhaps I've taken this too far, but wouldn't it be great if that robot voice from Workbench 2 should be updated, and that could tell the jokes if you want...

Also, something like VoiceShell should be added and properly implemented so that you can simply talk to your computer to get it to do simple loading procedures. Perhaps even a proper (simplish) intelligence engine could be worked in, so if you

"Michael Gunter's email in the May 98 issue was a prime example of the lack of faith towards the Amiga market and I'm pretty sure that he is one step away from buying a PC"



▲ **Millenium Bug: a DFORMAT parameter would be nice, apparently.**

have no friends you can always talk to your Amiga. Perhaps, you could even take it down the pub for a drink... Admittedly, this would make it a lot bigger, so I think that OS4 should be on a CD-ROM, with this additional stuff (and other useful bits) on it. Ta-da! Windows beater!

Chris Speer, via email

Nice idea, but you lost us halfway through with your bit about people saying "Amiga" and stopping laughing. Also you'll probably find also that a computerised voice isn't the best vehicle for imparting a rib-tickling joke, but you never know...

Wordworth vs Word

I'm an IT manager for a medium sized manufacturing company, and would dearly like to replace some of our Windows 95 PCs running Word with Amigas running Wordworth, but there is one thing holding me back.

Any new Amiga OS must have built-in networking, both via modem (eg for Net access) and more importantly for business use, LAN access by ethernet. Everybody nowdays, both at home and in business wants to network their equipment.

Without cheap, effective, simple networking (both hard and software) the Amiga will (continue to) be a minority, niche market, and will never make any penetration into the enormous business market.

Kevin White, Cheshire

SAEs please

First of all, many thanks for including the details of my Amiga user group on your User Group directory pages. The interest generated has been quite staggering considering the state of play with the Amiga market. But, therein lies the problem...

I have received mail from literally all over the world asking questions ranging from "I have replaced my existing hard drive but the new one does not seem have a space to insert the blue disks" (!!?) to "I am having trouble getting ShapeShifter to recognise my SCSI CD-ROM".

I have replied to all the letters to the best of my ability and have referred others to friends with expertise in a particular subject but not one person included an SAE. This may seem trivial but I have personally replied to over 50 letters and only about five of these were in a position to actually attend our user group. The chap who wrote to me from a submarine in the Arctic Circle may have had the best intentions but I don't think he could make it every Sunday afternoon...

What I'm basically saying is that I am quite willing to help if people have a problem but I simply cannot afford to spend money in doing so. If you could mention this in your magazine then I would be very grateful. Thanks a lot.

Simon, Wigan & West Lancs Amiga User Group

P.S. Just out of interest, we have members who attend from Coventry (100 miles) and Anglesey (85 miles). Can any other group do better?

It's good to hear of the amount of responses those pages are generating. In fact, some groups have asked to be removed because they've had far too much response! We'll put in something about including a stamped addressed envelope for replies.

"The chap who wrote to me from a submarine in the Arctic Circle may have had the best intentions but I don't think he could make it every Sunday afternoon..."

Norwegian supplier

All I want to say is that Amiga equipment is very hard to get here in Norway. There are many Amiga users here in Norway but they can't find stores that sell Amiga equipment for their machines! So I wanted to give all the users in Norway an Internet site and a phone number they could call when they want hardware or software for their great Amiga machines!

Name of the company: Sezam Software
Location: Bergen
Country: Norway
Phone: 55100070 (from other countries +47 and the number)
Internet: http://www.sezam.no

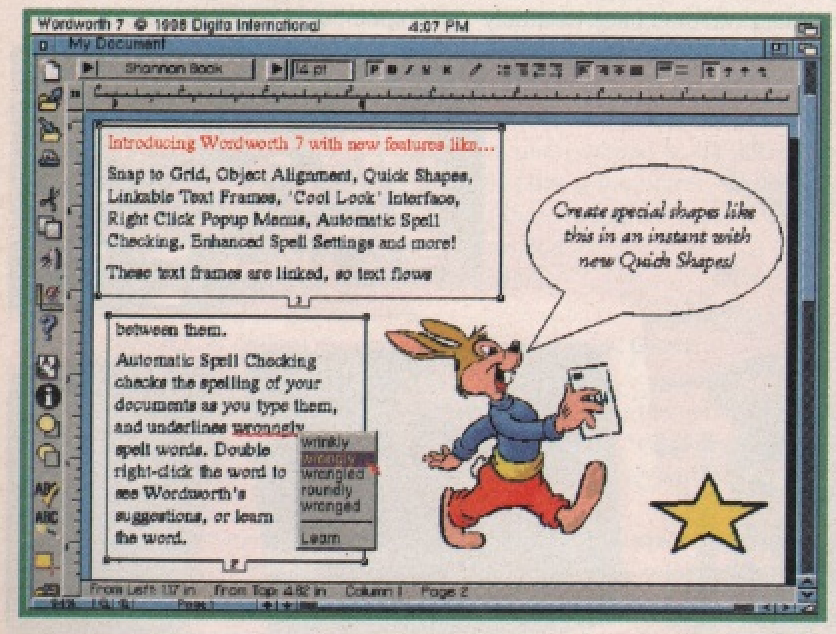
If you could print this in the great CU Amiga Magazine it would be great! Thank you for the best Amiga magazine in the World! Keep up the good work! Thats all!

Ragnar Ulvestad, Vatne, Norway

More professional

Thanks for a fantastic mag, but in my honest opinion it could improve with a more professional edge. Most Amiga users today are of a highly informed species, and the treatment of topics still in their infancy on the machine (eg. networking, high performance for the commercial sector, advanced graphics/video techniques, performance emulation, as in Softwindows for PPC Amiga...) would surely generate interest, curiosity and enthusiasm inside a delicately balanced market.

Stephen Dowe, Hants



▲ Wordworth: better than Microsoft Word?

To the Point...

Come again?

COBOL; FORTRAN; BASIC; PASCAL: Any other B*ll*x. Who gives a toss. Amiga must survive. It's an original concept and it's up to you (plural) to make this happen. We are the minority but be can win! From someone who gives a toss, and who(m) has faith. I represent others! Confused as a newt:

JLJ Smith, via email

Foul mouthed

Why on earth do you give your pages over to foul mouthed people who's opinions are best kept to their self? Backchat, "Don't knock CDTV"; this should have been thrown in the bin along with the picture and comments from Art Gallery picture three.

Mr M Worcester, Notts.

Stating the obvious

I'm sure you and your readers are getting fed up with all these car analogies appearing in a computer magazine, so here's a motorcycle one instead...
<snip>

P Charlton, Croydon

Like you say, we're a bit tired of those now. Merely replacing last month's VW Beetle with a Norton motorbike isn't adding anything to the debate. Next!

Coming soon

As we closed this issue, initial reaction was coming in regarding the Amiga Inc announcement from World of Amiga. We'll be publishing a wide range of readers' views on the subject in the next issue.

CU Amiga reserves the right to cut out bits of letters that go on without any particular point, and to simply snip out bits we don't have room to print. We won't add anything though, apart from the odd spelling correction. All letters sent to the Backchat address will be considered for publication.



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Points of View



Time for a few more opinions... please note that the views expressed here are not necessarily those of CU Amiga.

End of an era?



Shortly before the last general election in the UK, there was a real dread amongst the country's alternative comedians and satirists. For years they had been roundly supporting the opposition party, getting great mileage from mocking the Conservative government's latest gaffe, scandal or squabble. The prospect of a sleaze-free new government was a scary one to them – where would they get their material if the people they had been knocking all this time weren't around any more? There was even talk of comics defecting to keep the Conservatives in power and themselves in jokes. Of course it wasn't long before the comedians all realised that the Labour party was made up of politicians, and there is no such thing as a politician who isn't worthy of satirising. Within days of the new government, the comedians were finding plenty to take the mick out of.

Fancy French words

A similar fin de siecle atmosphere exists amongst Amiga commentators today. It's just one of those things that we write the magazine from the back to the front, so the last 64 pages will probably be at the printers by the time we have heard what the "big announcement" is. We've had a field day, hypothesising and evangelising about the future of the Amiga, and in a couple of weeks it will all be over – for now at any rate. Like the comedians, I'm sure we will find something to discuss in no time at all, but right now it's dangerously close. In fact much of our planning in this issue has involved trying to figure out what interesting things we can do without embarrassing ourselves. We could decide to do a major article on how great PCI is and why you'll have PCI slots in your Amiga sooner or later, only to have Amiga Inc announce that PCI is being ignored a couple of weeks before the issue comes out.

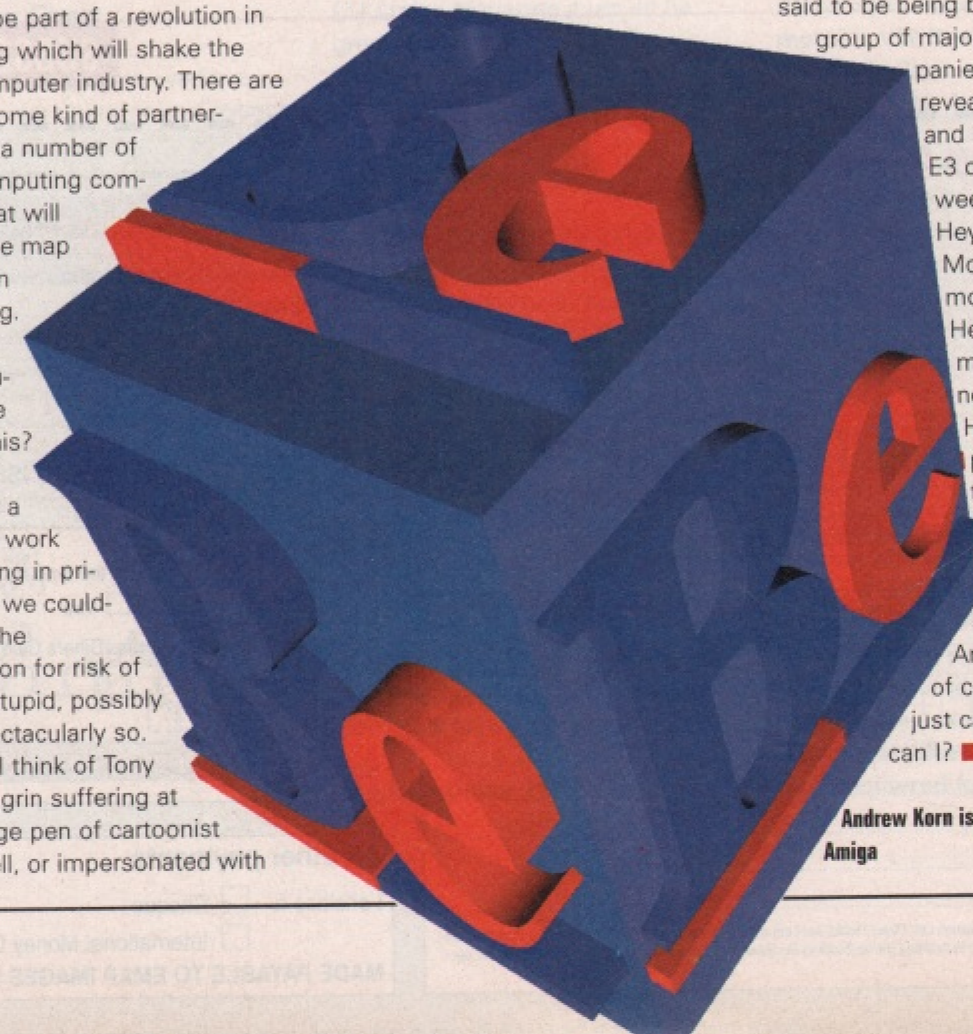
Here it comes...

We await with baited breath the announcement, silenced in our normal speculation by the sheer proximity of the information the Amiga community has been crying out for over the last year – and a lot longer. We are told it is big, and it will be worth the wait. We hear that it is going to be part of a revolution in computing which will shake the entire computer industry. There are hints of some kind of partnership with a number of major computing companies that will redraw the map of modern computing. How can we speculate in the face of this? Sure, we chat over a pint after work speculating in private, but we couldn't print the speculation for risk of looking stupid, possibly even spectacularly so.

Then I think of Tony Blair, his grin suffering at the savage pen of cartoonist Steve Bell, or impersonated with Prozac-like craziness by impressionist Rory Bremner, and I know we'll be right back in the thick of it in no time. We've heard announcements before, we can take it. We are seasoned, battle hardened professionals who have faced the full fury of a thousand marketing departments and survived. We'll survive this one too. Whatever Amiga Inc throw at us, there will be something wrong with it, something better that could happen. There will be further developments in the world of computer technology that they did not anticipate and we'll be able to discuss those. There will be new changes of direction and changes of opinion for us to monitor and examine, and there will be internal differences (hopefully fewer than with Commodore!) that we can sink our teeth into. There is even the all important question of what the next generation of Amiga will be after that, and why Amiga Inc haven't organised support for XYZ yet. Hell, if it turns out to be a washing machine, we'll have an opinion on soap powders in no time – so come on Al, give us your best shot! Don't think you've been let off easy. We'll be back, and we'll be taking a good look at Jeff Schindler Saturday morning to see if there is any sign of a crazed Tony Blair grin.

"We'll be back, and we'll be taking a good look at Jeff Schindler Saturday morning to see if there is any sign of a crazed Tony Blair grin."

Of course my money says that new Amigas will be based on multimedia processors such as the Mpact2. Or is it that mysterious Project X chipset that is also said to be being backed by a group of major computer companies, and will be revealing its plans and its partners at E3 only a couple of weeks after WOA? Hey, then there is Motorola's even more mysterious Hellcat, which might or might not be relevant. Hmm, well I'm pretty certain that Be, inc. will be commissioned to write OS4. Unless Al are translating AmigaOS to Java, of course... Oh hell, I just can't stop myself, can I? ■



Andrew Korn is Deputy Editor of CU Amiga

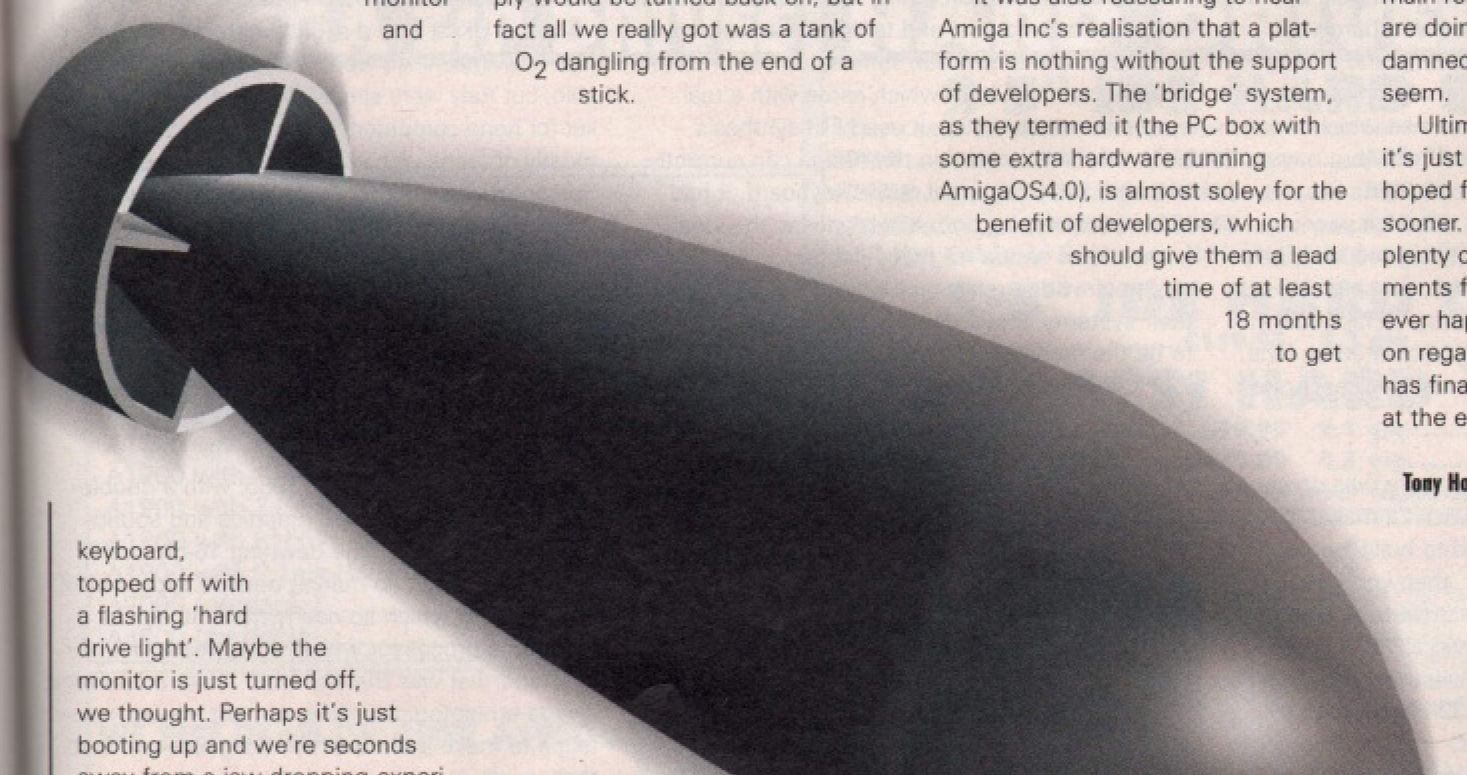
Fallout from the bombshell



Let's be honest: it wasn't what we wanted to hear. After a wait of God knows how many years, we're told that we've got to sit tight for another two before the first of the fabled Super Amigas rolls off the production line. After being prepared for the "bombshell" by Amiga Inc, most of us had hoped they would at least unveil a new operating system update, or fingers crossed, some hardware.

For one reason or another, the promises of demonstrations of new products came to nothing.

The closest we got to that was a very attractive Amiga mini tower with badged monitor and keyboard, topped off with a flashing 'hard drive light'. Maybe the monitor is just turned off, we thought. Perhaps it's just booting up and we're seconds away from a jaw-dropping experience. But no... take a look round the back of the set-up and the game's up: the Amiga tower turns out to be an empty box constructed from glue and hardboard. The 'hard drive light' is simply an LED on a strip of PCB. Rather bizarrely, it took me back to an episode of the childrens program Bagpuss, in which the mice fool the other toys into thinking they have a doll's house which makes buscuits, when in fact they're just rolling a single biscuit through the front door then taking it around the back, re-producing it time after time. I had to share that with you.



Different perception

Amiga Inc seem to think they've worked very quickly on this one and were pleased with what they had to say, even though they were disappointed they couldn't reveal their partners in the development of the new operating system. But then they're looking at this whole situation as having begun in April of last year, whereas we've been waiting a whole lot longer. To them, two years is nothing. Ask someone who has been holding their breath for 15 seconds to hold it for another 30 and they'll probably be able to cope. Ask the same of someone who has been holding their breath for two minutes and you might get a less obliging reaction.

Through nods, winks, nudges and hints, we were lead to believe that after May 15th the oxygen supply would be turned back on, but in fact all we really got was a tank of O_2 dangling from the end of a stick.

Positive aspects

There are however many positive aspects that have come from the announcement and the World of Amiga weekend as a whole, not least the promise of a next generation Amiga and the intermediate development system running AmigaOS4.0, clumsily presented as a PC-based consumer product.

In a way, the most encouraging thing to have emerged was the show of unity and strength from the Amiga community, coupled with Amiga Inc's willingness to talk and consider that their initial plans might not have been ideal in all respects. When PowerPC was conspicuous by its absence from Amiga Inc's plans, phase 5, Haage & Partner and Mick Tinker (of BoXeR fame) got together and thrashed out a joint proposal for a licence to develop AmigaOS3.5 for PowerPC Amigas. The Amiga is still a viable proposition today because of them, you, us, and we're not going to sit around doing nothing, hanging on to the promise of great official things two years down the line.

It was also reassuring to hear Amiga Inc's realisation that a platform is nothing without the support of developers. The 'bridge' system, as they termed it (the PC box with some extra hardware running AmigaOS4.0), is almost soley for the benefit of developers, which should give them a lead time of at least 18 months to get the new killer apps in development for the new Amiga. Ironically, it's this phase which caused uproar in the initial Amiga press briefing.

The x86 development system (the only sytem planned to run AmigaOS4.0) was presented as a consumer product, leading to confusion and outrage from certain quarters of the Amiga press who sensed a covert slide into PC territory under the Amiga banner.

"But then they're looking at this whole situation as having begun in April of last year, whereas we've been waiting a whole lot longer."

Keep on keeping on

I get the impression some people over at Amiga Inc had expected a more enthusiastic response to their promise of a wondermachine within a couple of years. Someone should have told them (actually I think they did) that we've heard this all before, and only solid, tangible, working evidence is going to have the desired effect. Then again, Amiga Inc are getting a hard time in exchange for granting us our main request: tell us what you are doing. Damned if they do, damned if they don't it would seem.

Ultimately this is good news, it's just that most of us had hoped for something a big bit sooner. There are bound to be plenty of interesting developments from the fallout, and whatever happens, we'll be carrying on regardless. At least someone has finally changed the lightbulb at the end of the tunnel. ■

Tony Horgan is Editor of CU Amiga

MSX

With so many different home computer systems, someone needed to introduce a standard... Guess who?



The home computer of the 1980's saw many different formats rise and fall. Back in those days building a computer was actually very easy. Microprocessors were plentiful, and if you didn't want to bother designing your own custom hardware you didn't need to: computers like the ZX80 and Jupiter Ace were built using ordinary chips available from any electronic supplier.

To make your own system you only needed to stick the CPU and some memory in a box, add a keyboard, TV modulator, basic video hardware and a cassette interface for loading and saving problems. And that's what a lot of companies did: the Oric, Lynx, Dragon – names which mean nothing to anyone under sixteen now but names which bring back memories to old farts like me.

This time the computer in question very nearly made it big time. It was such a good idea, and so much money was spent on it, that it was hard to accept that it wasn't a success. In fact, looking around the many web pages created by fans, a lot of people never did and never will accept it.

We are legion

The thing about MSX was that there was no single computer system. MSX wasn't a make, it was a standard. If you wanted to build a computer which could put MSX on it, then you needed to make it conform to basic hardware specifications. These were that you used a 3.5 MHz Z80 processor (the same as the Spectrum and ZX81), at least 8K of memory and a 32K ROM with a special version of BASIC on it.

With plans for global domination written all over it, it probably comes as no surprise that the author of the BASIC was none other than Microsoft themselves (of course, the size of the ROM should have given it away – what Sinclair crammed into 8K, Microsoft took 32K to do). Bill and pals at ASCII (the Japanese standards people) came up with MSX in an attempt to make a home version of IBM's business computer.

The list of Japanese companies pumping out MSX machines was truly impressive: Yamaha, Pioneer, Toshiba, Canon, GoldStar, Mitsubishi and Hitachi to name but a few. Each machine was a very well made, single unit. With a real keyboard, cassette saving and loading (but floppy disk upgrade available), cartridge software support, a joystick interface, decent sound using the General Instruments AY-3-810 sound chip: the MSX systems were real computers. Graphics capabilities were impressive too, with up to 256 by 192 pixels in 16 colours and sprites, all made possible by the same video chip used in the Texas Instruments TI99/4a (another story there).

However the clever part was that as each system conformed to the same specifications, software written for one would work on them all. You could buy a game for your MSX computer, no matter the make, and it would work when you got it home.

You might think that this conformist approach to computers would limit them: what would there be to choose between them? The manufacturers easily got around this, and tailored their hardware to specific niche markets. Yamaha, for example, brought out the CX5M which came with a real synthesiser built-in (OK, it used FM synthesis – but it was still more than the Amiga can currently manage) and with a real music keyboard. It had built-in sequencing software, and was the ideal home music set-up for many people.

Spectravideo really pushed out the boat with their systems, and created what many consider to be the finest MSX machines available. The 738 X´PRESS system looked uncannily like an Amiga 500, with a floppy disk drive built into the side. Taking advantage of the Z80, this machine could run CP/M programs – most business applications – which made it a serious contender as a great all-round computer system.





The Pioneer system integrated itself into the family entertainment system and could link-up with the videodisk player. Presumably this was solely for the Japanese habit of Karaoke, but it was still ahead of its time. If they had called it a "set-top box", it might all have been different.

Whoops

So what happened next? Although a big hit in Japan – it had to be, with all the manufacturers behind it – the MSX systems were not a success in the UK, nor in the US. It's hard to tell why the US refused to fall under the spell, except that the MSX platform was chronically under-powered. With the launch of the Atari ST and the beloved Amiga, it was clear that 8-bit micros with cassette storage had had their day. Concepts such as built-in BASIC appeared totally old-fashioned, and eventually a disk operating system which couldn't deal with subdirectories was a non-starter for serious use. Americans with an eye to the future preferred their AppleII systems.

In the UK, it was a slightly different matter. The MSX machines were lovely, and very desirable, but they were simply too expensive. The market for hone computers in the 1980s consisted mostly of teens who wanted to play games. A Spectrum was affordable, an MSX system wasn't – it was that clear cut. With a little extra money, the average kid could save up for a Commodore64, but the MSX might well have been in supercomputer territory. Rich kids had BBC Microcomputers, thanks to parents noticing them in schools, and business people used Amstrad PCWs and even the fledgling PC. The MSX had very successfully priced itself out of the market.

MSX2 was launched in 1985, with a double-speed Z80 and improved graphics and sound, but it was too late – the dawning 16-bit world meant there was no market outside Japan. MSX, the standard which so nearly made it, based itself on a processor which was already out of date and that was the end of it. There are several Amiga emulators available, but not enough nostalgia to make it worthwhile. Sorry Bill, you lost that round. ■

John Kennedy

Web links

The Ultimate MSX FAQ
http://www.geocities.com/SiliconValley/Vista/2653/msx1.html

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